AIRLAND COMBAT

An Organization for Joint Warfare

THOMAS A. CARDWELL III
Colonel, USAF

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by

THOMAS A. CARDWELL III
Colonel, USAF

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To

T. J.

Mother and Dad

Michael and Timothy

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Foreword

It takes all our services together plus the industrial efforts of our Nation to win any major war.

—Gen Omar N. Bradley

Our unified or joint system of command is at the heart of our ability to plan and conduct the operations required to implement the national military strategy. The joint system is disciplined by the principle that allows decisions to be made at the lowest possible level so that flexibility is given, along with the necessary authority, initiative, and responsibility, to those who can use it to the best advantage—the joint commanders on the scene.

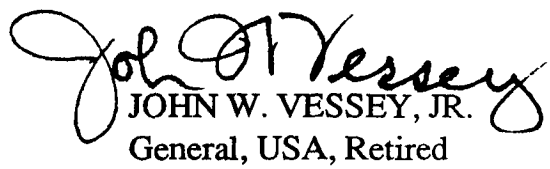
Our commanders exist to be ready to fight and fight successfully. Should deterrence fail, they are the ones who will carry out our war plans. We must make sure that commanders get the forces they need and that the forces of the four services are integrated properly. We must realize the full potential of those forces by ensuring that they can work together through sensible equipment, effective joint doctrine, and exercises. Interoperability and effectively coordinated joint and combined operations will give us a payoff that is greater than the sum of the individual parts.

This book addresses one important aspect of our joint doctrine for unified operations within a theater—joint warfare for airland combat. Without clearly defined and well-practiced joint tactics, techniques, procedures, and an organization for airland combat, the effective employment of all arms toward a single objective is made difficult, even wasteful and dangerous.

The author is well qualified to write this book. He served on the Air Staff during the important years in which the airland battle interface was developed and participated in the Air Staff contributions to the US Army's Extended Battlefield and AirLand Battle Concepts. While assigned to the Organization of the Joint Chiefs of Staff, Colonel Cardwell participated in the development of NATO's and SHAPE's

Conceptual Military Frameworks, SHAPE's Follow-On Forces Attack Concept, the Joint Staff's Interdiction and Follow-On Forces Attack Studies, and the Joint Doctrine Development Program.

Colonel Cardwell has traced for us the development of airland combat strategy since World War I, outlined current thinking on the subject, and offered prescriptions for strengthening our capabilities for joint operations. In so doing, he has built a valuable source document on airland combat and contributed to the dialogue on joint doctrine in a meaningful and useful way.



JOHN W. VESSEY, JR.
General, USA, Retired
Washington, D.C.

About the Author

Col Thomas A. Cardwell III

Col Thomas A. Cardwell III has served in numerous operational and staff assignments since his accession to active duty in 1965. He was assigned in 1967 to the 390th Tactical Fighter Squadron, Da Nang Air Base (AB), Republic of Vietnam, where he flew 100 missions over North Vietnam in the F-4C. After a combat tour there, he transferred to the Aerospace Defense Command, flying the F-106 from 1968 to 1972. He was selected in 1969 as the outstanding junior officer in North American Air Defense Command (NORAD). In 1973 he served one year on the Air Staff under the Air Staff Training (ASTRA) Program in the Foreign Military Training Division.

In 1974 he was assigned to the USAF Interceptor Weapons School as director of academic training and publications. In 1977 Colonel Cardwell returned to the Air Staff to serve as an air operations staff officer in the Directorate of Concepts, then as a planning and programming officer in the Directorate of Plans, in the office of deputy chief of staff for plans and operations, Headquarters USAF. During this tour he served as the US principal member to the North Atlantic Treaty Organization's (NATO) Tri-Service Group on Air Defense and to the Inter-Service Tactical Air Working Party.

In 1982 Colonel Cardwell was assigned to the 323d Flying Training Wing, Mather Air Force Base (AFB), California, as the deputy commander for operations. In 1984 he was assigned to the Joint Chiefs of Staff (JCS) as the chief of the Strategic Concepts Branch, then as chief of the Strategy Division, Deputy Directorate for Force Development and Strategic Plans, Directorate of Plans and Policy (J-5).

In 1985 Colonel Cardwell assumed command of the 601st Tactical Control Wing, Sembach AB, Germany. In August 1987 he was reassigned to Headquarters United States Air Forces in Europe as the assistant deputy chief of staff for plans and programs, Ramstein AB, Germany. In September 1988 he was assigned as the deputy assistant chief of staff for studies and analyses and vice-commander of the Air Force Center for Studies and Analyses at Headquarters USAF. In April 1991 he assumed his current position as commander of the Air Force Studies and Analyses Agency, Headquarters USAF, Washington, D.C.

Colonel Cardwell has a BBA degree from Texas A&M University, an MS from the University of Southern California, and a PhD from Pacific Western University. He is a graduate of the Tuck Executive Program of the Amos Tuck School of Business Administration, Dartmouth College.

Preface

It is true that there are deep-rooted interservice differences that break out occasionally in seemingly bitter exchanges. But they are the product of honest convictions by honorable men of broad experiences and . . . manifestations of a deeply justified pride in all that their respective services have contributed to the growth and security of the country.

—Gen Matthew B. Ridgway

Even prior to World War II, there were leanings toward uniting the military efforts. Lt Gen John S. Pustay, USAF, Retired, former president of the National Defense University, once stated that: "Long before the end of the war, there was a growing conviction . . . to establish a system to coordinate and unify the activities of the US Armed Forces." He went on to say that "although today's circumstances are vastly changed, the Nation [still] remains concerned about issues such as defense organizations . . . and the relationship of the Services to one another."[1]

One area of defense organization that has received considerable attention has been airland combat. The US Army in the last 15 years has devoted much energy to the discussion of how to organize its forces to prosecute airland combat. The current Army doctrine on airland combat states that

> there is no simple formula for winning wars. Defeating enemy forces in battle will not always insure victory. . . . Wars cannot be won, however, without a national will and military forces equal to the task. Although successful military operations do not guarantee victory, they are an indispensable part of winning.[2]

To win requires an organization that supports the forces assigned to the commander. It also requires a coordinated effort among all the services in pursuit of common objectives.[3] "Joint planning in the combined alliance [and the joint] arena, at the component commander level, is the key to . . . success in these missions."[4] This planning must take into account our capabilities, the campaign objectives for the theaters, and of course the threat. The challenges we face today are not that much

different than those faced by ancient warfighters. Current Air Force thinking on airland combat states that

> the tempo of warfighting has increased over the last several decades; and the range, accuracy, and kinds of weaponry have greatly improved. But some challenges will never change. Commanders at all levels need to understand the enemy, to know their own forces, to establish warfighting goals and objectives, and to lead men and manage battles while suffering the fog and friction of war. . . .[5]

> Air, land, and naval component commanders translate theater objectives into joint campaigns aimed at theater goals. . . . Air forces conduct campaigns of their own as well as support and jointly prosecute surface campaigns. . . . Air campaigns are theater-level campaigns, all parts of air power's operational art.[6]

This book proposes an organization, a command structure, joint doctrine, and procedures to accomplish airland combat. The underlying theme is this: our airland combat organization must be based upon the principle of unity of effort, which requires an integrated team of land, naval, and air assets operating for a common objective. There is a void in the literature on integrating land and air assets at echelons above the corps and coordination of these assets between the services.

> There is little uniformity in air/land field organizations, as they now exist at echelons above (or even below corps). Nor can there be [uniformity], given the variety of conditions where U.S. air/land forces are, or may be, deployed. Any search for principles or for the best available thought, must take that lack of uniformity into account, and also the practical reality that U.S. Army forces [and the other services' forces for that matter] will always be employed in a multi-service or multinational* framework in which the multiservice/multinational commander's needs and perspectives should govern.[7]

This book proposes an organization to fill that void and attempts to provide the uniformity needed to ensure that we have the proper organization to win wars. The theater or joint force commanders have the authority to organize along the functional lines described in this book.

Recent events in Europe, the Middle East, and Latin America have caused us to rethink some of our organizational tenets. This review has, I believe, strengthened our view that sound organizational principles are needed as much today as they were some 70 years ago. The command structure proposed in this book will accommodate the

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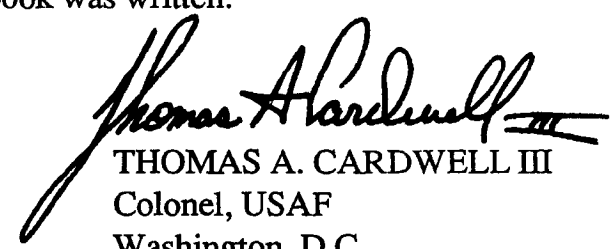
*Multiservice refers to joint and multinational refers to combined operations.

changes in the international environment we have seen over the past years.

This book is one person's view of how we should organize our forces based on the author's experience in working doctrinal issues on command relations. My views have been shaped by staff and command assignments, a review of history, and the views of present and former military officers. My objective was to set down in writing, for staff officers and commanders involved in airland combat, useful thoughts on the subject of the organization and employment of forces engaged in airland combat. I have not ignored the joint doctrine found in JCS publications but rather have sought to amplify that doctrine and try to put it into the context of current thinking.

In putting this book together, one of my aims was to present historical perspectives and doctrinal statements to provide a sound foundation for the understanding of how the services employ forces in airland combat. History has shown that misapplication of sound organizational principles can cause needless loss of life and equipment. Wars in the future will not allow time to experiment with command structures; we must organize today to ensure success on the modern battlefield tomorrow.[8] When we violate sound principles of organizing our forces for the most efficient and effective command structure, we court defeat.[9] Defective organizations lose wars.

It should be noted that war-fighting organizations are, by their very nature, the subject of varying views. Intellectual debate on how to employ our forces should be the cornerstone of our military education system. It is in that spirit this book was written.



THOMAS A. CARDWELL III
Colonel, USAF
Washington, D.C.

Notes

1. Gordon W. Keiser, *The US Marine Corps and Defense Unification 1944–47: The Politics of Survival* (Washington, D.C.: National Defense University Press, 1982), vii.

2. Field Manual (FM) 100-5, *Operations*, 20 August 1982, 1-1.

3. Ibid. Chapter 1 details the US Army's view on how to identify the challenges for winning the battle on the modern battlefield. "Soldiers and units must prepare for such battles and the Army's operational concept must enable it to win. AirLand Battle is the doctrine that deals with the worldwide challenges."

4. Gen Charles L. Donnelly, Jr., "A Theater-Level View of Air Power," *Airpower Journal*, Summer 1987, 5.

5. Ibid., 7.

6. Ibid., 4.

7. Lt Gen John H. Cushman, USA, Retired, "Organization and Operational Employment of Air/Land Forces" (Carlisle Barracks, Pa.: US Army War College, 1983–84), v.

8. See Col Thomas A. Cardwell III, *Command Structure for Theater Warfare: The Quest for Unity of Command* (Maxwell AFB, Ala.: Air University Press, 1984), xiii and 73, for examples of this.

9. Ibid., 2.

Acknowledgments

Without the generous help of many people this manuscript would never have been produced. I am deeply indebted to all for giving so freely of their time. To list all would be impossible, so to each of you who participated in the development of this book my simple, but most sincere, thanks.

I do, however, owe a special debt of thanks to Col Dennis M. Drew, USAF, Retired, who while the director of the Airpower Research Institute, Air University Center for Aerospace Doctrine, Research, and Education (AUCADRE), provided encouragement and critical comments. I would also like to express my appreciation to Dr David MacIsaac of AUCADRE; Col Ralph L. Allen, USA, Retired; Col John F. Shiner, USAF, Retired; and Lt Col Derwin W. ("Brad") Bradley, USAF, for providing valuable background material.

I would be remiss if I did not mention the special contribution to this book by Gen Gerry O'Malley, whose untimely death in 1985 cut short a brilliant career. General O'Malley taught me much about the employment of air power in airland combat. Much of his wisdom is contained in this book. Also special thanks to Maj Gen Carl D. ("Pete") Peterson, USAF, Retired, and Maj Gen William J. ("Bud") Breckner, USAF, Retired, who gave me the opportunity to apply, in an operational setting, the ideas contained in this book.

I also want to mention the contribution that Lt Col Donald R. Baucom, USAF, Retired, and Maj Jeffery W. Coyle, USAF, Retired, made to this effort.

To Mrs Roseann Shrader, Ms Denise Ching, Mrs Connie Walker, Mrs Ruth Siebert, Mrs Leona Lane, Ms Deb Barnhart, and the AUCADRE Document Processing Center—Mrs Marcia Williams, Ms Lula Barnes, Ms Carolyn Ward, Mrs Sue Carr, Mrs Katie Ladd, and Mrs Debbie Beal, who really made this manuscript possible, thank you for all your hard work. Also, my special thanks to Ms Joan E. Bromiley for the initial editing and to Ms Emily Adams of AUCADRE for the final editing of my book. Also at AUCADRE, my appreciation to

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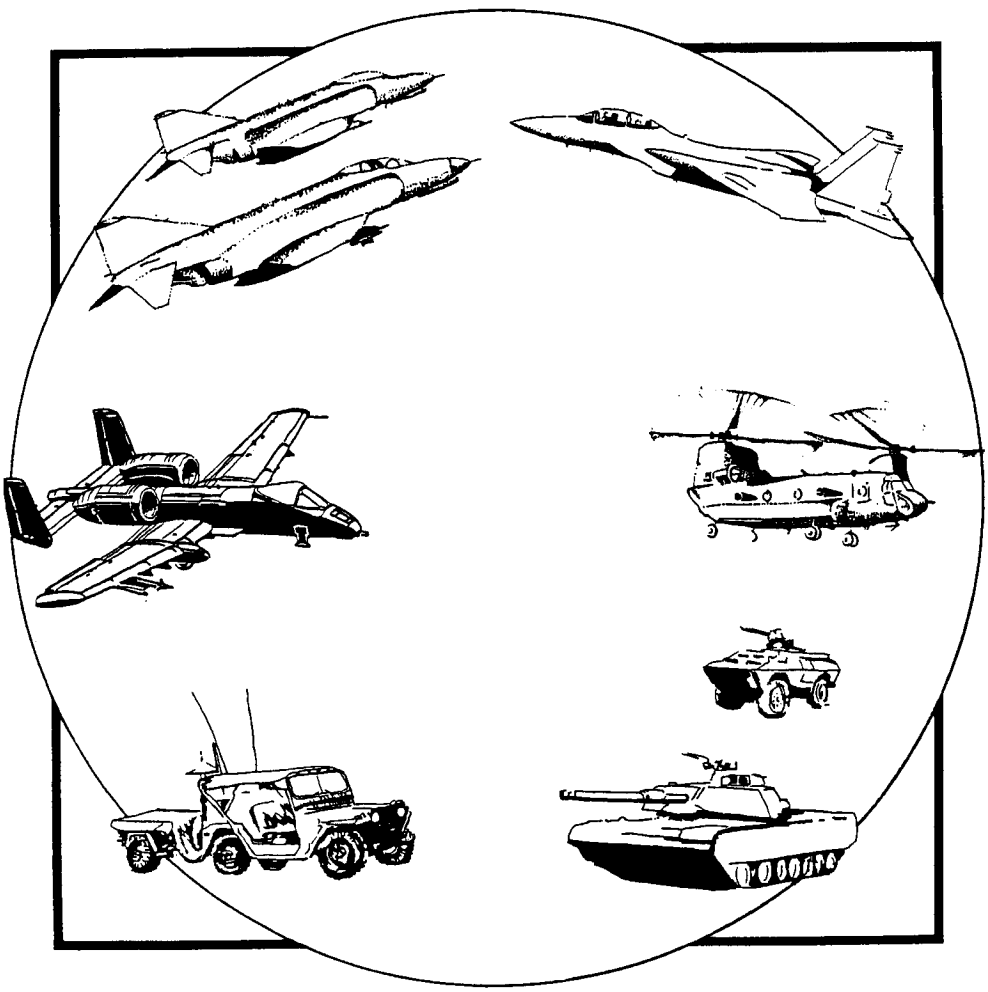
A special word of thanks to my wife, T. J., for her encouragement and understanding in the long process of putting this book together. I shall always cherish her love, understanding, faith, trust, and kindness. ("Gratitude is the conscience of memory." Unknown)

Last but not least, I gratefully acknowledge the contribution of my parents and brothers—Michael and Timothy. Without their faith in me, their unfailing confidence, and their love through many trying times, I would not have started, nor much less completed this book. ("Absence sharpens love, presence strengthens it." Unknown) **It** is then to **T. J.**, **Mother**, **Dad**, **Mike**, and **Tim** that I lovingly dedicate this effort.

U.S. ARMY
AIR-GROUND SYSTEM



(AIR-GROUND OPERATIONS SYSTEM)

Chapter 1

Historical Review of Airland Combat Organizations

History offers the best training for those who take part in public office.

—Polybius

In modern times—the air power age—no one service has ever won a war by itself. Winning wars has been a joint effort by two or more services. Small skirmishes may have been won by a single service, but the employment of forces on the modern battlefield to achieve military objectives takes the coordinated effort of two or more services. In every war of this century involving the United States, the efforts of the separate services contributed to the accomplishment of the overall theater strategy and the campaign objectives that support this strategy.[1] Witness the results of the Gulf war. Although air power played a significant—if not crucial—role, it took naval, army, and marine forces to obtain the objective.

To achieve military objectives, our forces must be capable of producing three fundamental effects in varying degrees: neutralization, destruction, and capture.[2] Our military forces possess certain intrinsic capabilities to produce these effects. "By integrating and coordinating their actions, each force makes a unique contribution to achieving the primary objective."[3]

This book examines two aspects—the contributions of land forces and air forces—to achieve the primary objective. It examines the use of land forces—US Army and US Marine forces employed in sustained operations ashore—and air forces—US Army, Air Force, Navy, and Marine air assets employed in support of the land campaign.

This study is organized into four chapters. Chapter 1 briefly reviews the history of joint combat organizations to lay the foundation for our current doctrines, principles, and organization for airland combat in theater warfare. Chapter 2 describes the underlying principles and doctrine that support airland combat. Chapter 3 provides the command structure and organization, the joint doctrine, and the operational procedures to integrate land and air assets to fight a war. Chapter four provides a summary of the airland combat organization.

To appreciate how services view the employment of forces on the battlefield, and hence the development of doctrine, one must consider the historical development of airland combat organizations. It is this historical perspective that lays the foundation for our current doctrine. This chapter briefly reviews how we organized and employed our forces in the past for airland combat based upon our doctrinal views. It is a historical review of command structures.

Prologue

Since recorded history began, man has experimented with methods to increase his fighting ability. One of these methods has been development of combat weapons. Combat weapons have, in varying degrees, contributed to the success or failure of the battle. "Since time immemorial, weapons have played a significant role in tipping the scales of victory from one side to another." [4] As weapons are developed, military people devise plans to use them. These plans are turned into concepts and then into doctrine to support the use of these weapons on the battlefield. This doctrine then drives the method we use to organize our fighting forces.

"Victory smiles upon those who anticipate changes in the character of war, not upon those who wait to adapt themselves after the changes occur." [5] All too often we take a weapon that has great potential for combat and fail to use it properly, or do not recognize its full potential. When we do this, we lose the opportunity for success. A good example was the development of the longbow.

The longbow was used by the English in 1346 against the French at the Battle of Crécy.[6] The English longbow, used against the armored French knights, turned the tide of the battle in favor of King Edward III. The bow had been in existence since 1066—over 250 years before the battle in the forest of Crécy—yet its potential was not fully recognized even after the decisive Battle of Crécy. Sir Charles Oman, 1860–1946, found it "rather surprising that Edward III was so slow in heeding the obvious lesson of the preponderant influence of the longbow and increasing the proportion of bowmen in his forces."[7] Although Edward I, in 1298, perfected the use of the longbow at the Battle of Falkirk, "English chroniclers . . . forgot that the archers had prepared the way," and they reported that it was "the victorious charge of the knights at the end of the day that ensured victory against the Scots."[8] Forty years after this battle Edward III led an army, skilled in the use of the longbow, to victory; and 300 years passed after the introduction of the bow before it was realized that this "new" weapon gave one side an advantage. Not only was the potential of the longbow not fully recognized for a long time, but no one thought to develop a counter to it. "Sometimes the advantage of a superior weapon is decisive before countermeasures can be evolved."[9]

Dr I. B. Holley, Jr., points to numerous examples in his book *Ideas and Weapons*. He concludes that it "follows then that the methods used to select and develop new weapons and the doctrines concerning their use will have an important bearing upon the success or failure of armies—and of nations."[10] He goes on to state that

> the prior acceptance and application of the thesis that superior arms favor victory, while essential, are insufficient unless the superior arms are accompanied by a military doctrine . . . which provides for full exploitation of the innovation. But even doctrine is inadequate without an organization to administer the tasks involved in selecting, testing, and evaluating inventions. The history of weapons in the United States is filled with evidence on this point.[11]

All too often we take a weapon, test it, develop a doctrine to support it, but still fail to recognize that weapon's full potential. A later chapter discusses this chain of events and shows the relationship between ideas, weapons development, concepts, doctrines, organizations, and assessment and evaluation.

More recent history points toward failure to fully realize the importance of weapons to concepts, doctrine, and organizations. Also, we tend to ignore* lessons learned from the past when we set up current organizational structures for theater warfare.[12]

Up to World War II

Early history of airland combat records a fascination with linking air power to ground forces to enhance the combat capability of our fighting forces. The potential was unlimited it seemed—only man's imagination and the pace of technology could slow the rapid integration of air and land power.

Whether technology will be decisive in modern wars may be open to question. Technology, but also national will, is crucial to winning. Without the resolve to use modern weapons in a manner that will have the greatest impact on the enemy and to do so until the enemy's will and capability to continue the war are undercut, modern technology cannot be decisive. For example, in the 1967 Arab-Israeli war the Israelis had the necessary resolve and made wise use of technology.

In the early 1890s Count von Zeppelin foresaw a combat role for the airplane and airship. Zeppelin told the German army chief of staff that the airship he was building had the capability to attack troop concentrations and fortifications. Then in 1899, at the first Hague Peace Conference, the United States successfully opposed a ban on the use of aerial weapons. It was argued that the airship could bring a quick and decisive end to the land battle, while others asserted that such an

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*Or perhaps we become so locked onto what "worked" in past wars (e.g., WWII) that we insist on retaining past doctrines and organizational arrangements in noncomparable situations (e.g., Vietnam).

invention could not be utilized under critical battlefield conditions and that it would not decide the victory.[13]

Prior to 1914 military leaders were chiefly interested in air power because of the enhanced possibilities it offered in observation and reconnaissance over the battlefield.[14] In 1908 Benjamin D. Foulois wrote about a struggle for control of the air over the battlefield.* Foulois speculated that the victor in that struggle would enjoy an advantage in aerial observation and that this would be an important factor in a battle to bring the campaign to a short and decisive end.[15]

The years up to World War I saw the development of the aircraft primarily as the eyes of the army—an extension of the land battle. France, Great Britain, Germany, Italy, and to some extent the United States were experimenting with the use of aerial bombs and were adapting the machine gun for use on aircraft. The offensive potential of aircraft was tested in small wars prior to World War I. For example, in Libya aerial bombing was introduced during the Italo-Turkish War of 1911–13.

As World War I began, the value of aircraft became more apparent. A few weeks into the war, the offensive use of aircraft began to find acceptance. Air power, in support of the land battle, reached its greatest peak over the Western Front with the use of specialized aircraft with specialized tasks. During the German Western Front offensive, fighter aircraft were used to protect the reconnaissance and artillery spotting aircraft. During the Western Front, bomber aircraft served as an extension of artillery and the fighter was used primarily to keep enemy aircraft away from the battlefield. Both the bomber and the fighter aircraft had an indirect influence on the outcome of the battle in that the bomber made its effect felt well behind the enemy's front, and the fighter shielded the land forces from the enemy's air reconnaissance. However, during the first few months of the war, the bombers did not have much of an impact for there were few bombers in existence at that time. Since the activity in the air was for the most part neither directly nor intimately tied to the ground fighting, the command relationship and the

* Foulois wrote this as a school thesis at the US Army Signal School.

communication systems were very simple. The command structure used was at the army group level. At that level there was an air service commander; and below that, at the corps and division levels, were air liaison officers or teams. Land communications were via telephone, while air-to-ground communications were by air-dropped messages.[16]

Late in 1915 the armies began to acquire newer reconnaissance-type aircraft for use by the infantry. This close contact with the infantry opened the door for close-air-support (CAS) operations. Additionally, the air services began to experiment with improved air-to-ground communications. Early experiments with primitive communications—flares, lights, Klaxons—brought about improvements to the overall communications system. In 1916 the French issued the first instructions on communications techniques for air-infantry cooperation. The British, and eventually the Americans, adopted the French system. The time frame 1916–17 saw vast strides in airland combat—in tactics, doctrine, and communications.

Low-level attack* gained prominence in 1916, gaining official sanction at the Battle of the Somme. The battles of 1917 saw expanded use of low-flying aircraft. The year 1918 brought further refinement to the techniques of airland combat. The British added formation flying to ground attack operations which greatly increased the firepower of the attacks. By the end of the war, there was much talk about the usefulness and need for special units for close air support. This discussion led to improvements in airland communications. The lessons learned opened up a number of opportunities for the conduct of airland combat.

> First of all, the intervention of the airplane in the land battle had significant effects on the morale of the troops engaged in that battle (both the troops being supported and those being attacked). Aerial tacticians were much struck by this phenomenon, and gave it a large place—probably too large a place—in their conceptions.[17]

During the interwar period, the idea that ground attack aircraft, like the bomber, could make their best contribution behind the battlefield

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* Low-level attack had little impact as this was the "age of trench warfare" and artillery could do so much more damage than attack aircraft.

took root mainly among the air staffs. The army staffs, on the other hand, wanted to use the aircraft as they used any other arm of the army—that is, commit it directly to the battle. Most aviators, and some army ground officers, agreed that to be effective, the air arm should be controlled and directed centrally, for this would enable massed employment against the most critical targets.[18] However, general agreement could not be reached on who should exercise centralized control of air power.

During World War I, German army Gen Erich F. W. Ludendorff laid down the principle of centralized control by stating, "Central control must insure that, when the battle flights are put in, dispersion of force is avoided and that the great effect of a number of machines cooperating at points of decisive importance in the battle is fully developed."[19] Experiments in centralized control of air power during the interwar years, quite understandably, encountered opposition by ground forces. This was true particularly among corps and army commanders who wanted their own aviation as a part of the corps.[20]

The years between the two world wars were characterized by antimilitary sentiment. Many aviation units were disbanded. Most notable were the air force of the Russian armed forces, which was disorganized by the Russian Revolution and Civil War, and the German air force, which was abolished by the Versailles Treaty. Compounding the problem of developing military aviation concepts and doctrine was the fact that there was no real chance to test them. Therefore, the combat application of aircraft was very limited between 1919 and 1935. The chief application of aircraft during this period was to suppress lawlessness and rebellions. However, in 1935 a new cycle of wars emerged and with it a renewed interest in tactical air power. The Italo-Ethiopian War, Sino-Japanese conflict, and the Spanish Civil War started this new cycle.[21]

By 1938 articles on close air support began to appear in European military journals. The relationship between the armies and air forces influenced the development of airland doctrine. For example, in countries where air forces had independence from army forces, tactics, doctrine, and concepts were not subordinate to the army view. Also, where armies tended to be innovative, as was the case in Germany,

planners became interested in an enhanced role for the airplane in airland combat. This was not always true for air forces that were subordinate to the army. For example, the air arm of the Japanese army worked at tactical air, while our Army Air Corps largely ignored tactics because it believed that strategic bombardment was more important and would justify independence from the US Army. Tactical concepts for support of the airland battle that were developed during the period between the wars—as well as the organizational structure to support these concepts—were largely logical assumptions and theoretical calculations and were not based on combat experience.[22]

The history of airland combat for the United States during the period 1919 to the American entry into World War II could be characterized as an episodic one. This episodic period

> can be conveniently divided into three parts: first, a brief period of intense interest, stimulated by the First World War and continuing into the early 1920s; then a period lasting from the midtwenties to the outbreak of World War II, characterized by a certain doctrinal confusion over the role and function of ground attack aviation and wavering interest in the concept of close-air support; and finally, a period of renewed interest and intense developmental activity from 1940 to 1942.[23]

Gen William ("Billy") Mitchell's and Lt Col William C. Sherman's books on employment of the Air Service and operations of air units—both written immediately after World War I—became the basis for ideas that were held in the postwar Air Service.* The topics treated were essentially these: the value of air superiority, strategic bombing, attack on ground troops, and low-level bombing raids. Mitchell argued for the idea that the air forces might have to be totally committed to the land battle, but under more usual circumstances the bulk of air power would be used more profitably in strategic bombardment. Both texts have overtures of a shift of emphasis away from targets on the immediate battlefield to more non-close-air-support roles. To support

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* In the early postwar years Mitchell favored a combat force composed of 60 percent pursuit, 20 percent bombers, and 20 percent attack. He definitely saw the need for air superiority. In the early 1920s, Mitchell began to place emphasis on strategic bombing to win future wars, but he never lost sight of the need for pursuit aircraft. See Alfred F. Hurley, *Billy Mitchell: Crusader for Air Power* (Bloomington, Ind.: Indiana University Press, 1975).

the role of air power, it was argued that attack squadrons should be placed under the command and control of the chief of air service of an army or army group.[24]

"It was not so much the outbreak of war in September 1939 that galvanized the Army and Air Corps to action, but rather the catastrophic events of the summer of 1940 (for example, the rapid fall of France)." [25] The Air Corps began developing new aircraft requirements for bombers and tactical aircraft during the period 1939 to 1941. Also, the War Department began issuing preliminary instructions on airland combat. Training circulars set up the position of air task force commander and an advanced air support command post to make decisions regarding air support. From 1940 to the United States' entrance into World War II in 1941, airland activity could be characterized as one of a crash effort to establish a comprehensive system of air support, training, and development of tactics and doctrine to support airland combat.[26]

The War Years, 1942–46

Army doctrine for land combat was well entrenched when the United States entered the war in Europe.[27] Not so entrenched, however, was air doctrine in support of airland combat. Before discussing how air and land assets were used in World War II, it will be useful to review the development of the command structure for airland combat for the European and Pacific theaters.

Prior to World War II, command structure discussions in the United States were between the US Army and the US Navy. All debates centered around command doctrines espoused by these two services. By early 1941 it became apparent to many military leaders that the United States would be involved in a war in Europe. The debate began on what type of structure should be adopted in the event US forces were employed.

Within the Army there was a drive initiated by the Army Air Corps to reorganize. The US Air Force had its beginnings in the Army Air

Corps in the late thirties and early forties. Airmen believed their views on a command structure should be heard in any Army reorganization and also in Army-Navy discussions over a command structure.

The Army Air Corps wanted a separate role in any command structure. The War Department was opposed to any reorganizing of the existing Army command structure. However, most senior Army generals recognized a need to provide a more realistic staff organization to manage the war effort.* The Army Air Corps saw an opportunity to open the issue of employing air power in a wider role in a theater of operations. Gen Henry H. ("Hap") Arnold, chief of the Army Air Corps, wrote to Gen George C. Marshall, the Army chief of staff, asking for a complete reorganization that would allow the air forces to play their proper roles.[28] General Marshall was not ready to discuss the issue. He based this decision upon his desire to keep the Air Corps "in the existing command structure in order to promote the collaboration between ground and air operation[s]."[29]

General Arnold was not satisfied with this response. He again approached General Marshall to request that a group study the current command structure. General Marshall agreed and directed that Brig Gen Joseph T. McNarney chair such a study. Based on General Arnold's proposal, the McNarney Committee recommended three separate commanders—one for ground, one for air, and one for a service command.

The War Department agreed in principle with this plan for three separate commands. "By General Arnold's persistence, the Air Force was the champion of the War Department reorganization."[30] The reorganization was accomplished by an executive order and became effective on 9 March 1942.[31] This order created the Army Ground Forces Command, the Army Service Forces Command, and the Army Air Forces Command. The commanding general of the new Army Air Forces would train and equip air units for independent air strikes and for joint and combined combat operations with ground forces.[32]

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* Since 1935 there had been a General Headquarters Air Force whose commander controlled all Army combat air. During peacetime, he was directly subordinate to the Army chief of staff, and during war he reported to the theater commander.

Additionally, the "Air Forces would also be responsible for research, design, development, and procurement of all items peculiar to air operations."[33] With the Army reorganized, the War Department turned its attention to discussions with the Navy Department on a joint command organization for theater warfare.

Prior to Pearl Harbor, the agreed upon structure was based on the doctrine of mutual cooperation. This doctrine stated that no single commander would be in charge of the Army and Navy forces and that the services were expected to cooperate in any joint effort. However, if mutual cooperation appeared inadequate, a single command could be organized under the doctrine of unity of command.[34] This doctrine could be placed in effect by agreement between the secretaries of War and Navy, by an agreement between commanders of the Army and Navy theater forces, or by the president. The doctrine of unity of command stated:

> The [single] commander has the authority to direct the operations of the Army and Navy elements of his command by assigning them missions and giving them objectives. During operations, he could exercise command and control as would insure success of the common mission. He could also organize task forces. He could not issue instructions to the other services on tactics, nor could he control its administration or discipline, nor issue any instructions beyond those necessary for effective coordination.[35]

The American doctrine of mutual cooperation for command proved inadequate for combined operations in Europe and the Pacific. On 27 November 1941 unity of command was vested in the commander in chief of the Pacific Fleet. Six months later, in the European theater, the British Chiefs of Staff recommended command arrangements along the lines of the American unity of command doctrine, and the principle of unified command was adopted by the Combined Chiefs of Staff in 1942. Gen Dwight D. Eisenhower served as the supreme commander of all Allied armed forces in Operation Torch, the invasion of North Africa, in November of 1942. Unity of command was the basis for command of Allied operations for the remainder of World War II. However, the Joint Chiefs of Staff (JCS) did not approve the doctrine of unified command until April 1943.[36]

Within this unified framework, the command structure used during World War II was as follows: the combined armies and navies engaged in theater operations, and the Royal Air Force and US Army Air Forces units were under a single commander. Within the combined armies structure in North Africa, and later in Europe, General Eisenhower had two components—one for land forces and one for air forces.* This structure changed as new forces were added. For example, in 1944 with the establishment of the US 12th Army Group, General Eisenhower attempted to create a single land component command to control the US 12th Army Group and British 21st Army Group.[37] However, political considerations prevented the creation of this command.[38] When General Eisenhower decided not to create the land component command, American air force leaders saw no reason to retain the air component command—the Allied Expeditionary Air Forces.

American air force leaders argued that there was no need to coordinate tactical bombers and fighters since the US Ninth Air Force was already working closely with the 12th US Army Group.[39] Also, since the deputy to General Eisenhower had the responsibility for coordinating the US Ninth Air Force and the British Second Tactical Air Force with the US Strategic Air Forces Europe and British Bomber Command, the air component command was unnecessary. General Eisenhower agreed and dissolved the Allied Expeditionary Air Forces in October 1944.[40] "Thus, Eisenhower's decision to sidestep the problem of choosing either an American or British ground force component commander resulted indirectly in the unfortunate lack of a single air component command." [41]

This brief review of command structures shows that World War II provided the foundation for two important developments in the US command structure. It provided the doctrine for a unified command structure, and it laid the groundwork for a separate air force.

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*Naval aviation came under the command of the Navy fleet commander.

The existence of airland combat, and specifically the role of tactical air in support of land operations, really came about during World War I, which gave rise to tactical air roles and missions and employment concepts of today. World War II refined these employment concepts and showed the need for effective tactical air in airland combat.

At the onset of World War II, air doctrine was not very well entrenched, and employment concepts were in a state of confusion. This was caused primarily by neglect of tactical air during the 1930s. Had it not been for Gen Claire Chennault, "the lone voice crying in the wilderness," things could have been much worse. Chennault tried to awaken the Air Corps to the importance of pursuit aircraft and adamantly maintained that the first mission of an air force was to gain air superiority.* He further argued that pursuit would be essential to both offensive and defensive air superiority. That position was proven in World War II and again in more recent conflicts. In the midthirties, the Air Corps turned its attention to long-range bombers—strategic bombardment. The Air Staff was convinced that bombers could produce a quick victory in a war by destroying the enemy's will and capability to make war even before ground forces became heavily involved in the conflict.

Although tactical air was de-emphasized in the 1930s, airmen did get Army acceptance of an air organization that would enable the effective employment of strategic and tactical air power. In 1935 the Army agreed to put all offensive air resources under a single air commander. The organization was called the General Headquarters Air Force, or GHQAF. The GHQAF commander exercised centralized control over all Air Corps bomber, pursuit, and attack planes.

As the United States entered the war in Europe in 1942, Allied tactical air employment concepts were in a confused state. Aviators believed in the importance of air superiority and that interdiction would be helpful to ground operations; however, no one was particularly eager to pursue close air support for ground troops. This was due in part to

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* Chennault believed in the importance of both offensive and defensive air superiority. His thinking was not in terms of point air defense, and in the early mid-1930s he didn't really do much thinking about air support for ground operations other than in providing air superiority.

the importance placed on strategic bombardment by airmen. Very little thought had been given to airland combat until the US-British combined invasion of North Africa in November of 1942.

The Twelfth Air Force was created to support Operation Torch. Unfortunately, air power in support of airland combat was employed in an uncoordinated manner. Air power was split into three portions—Bombardment Command (tactical and strategic strikes behind enemy lines), Air Defense Command (rear area protection), and Air Support Command (direct support of land troops). The Army carried this dispersion one step further by dividing the Air Support Command into corps air forces.. Air Support Command units were parceled out to army divisions on a semipermanent basis. The division commanders then held onto "their" pursuit and tactical bombers, much the same way as they held onto their artillery assets. This prevented concentrated employment, left no capability for powerful offensive punches, and gave the initiative to the Germans so they could mass and strike whenever they chose.

Gen Carl ("Tooey") Spaatz, commander of the Twelfth Air Force, and General Arnold argued for doctrinal and organizational changes to this arrangement. Spaatz was impressed with the way British Army Gen Bernard L. Montgomery and Royal Air Force's (RAF) Sir Arthur Coningham employed air power during the Egyptian campaign of 1942 through early 1943. The British system put all Royal Air Force aircraft under a single air commander whose headquarters was collocated with the ground commander. This allowed close coordination between the air and land forces and allowed concentrated employment of all tactical air.

Through efforts of the Generals Spaatz and Arnold, the Army approved a new air doctrine and organization in mid-1943. General Marshall, chief of staff, approved the creation of tactical air forces separate from strategic forces. In July 1943 the War Department approved Field Manual (FM) 100-20, *Command and Employment of Air Power*. The new doctrine stated that land power and air power were equal and interdependent forces. It went on to state that the

> inherent flexibility of air power is its greatest asset [and this] flexibility makes it possible to employ the whole weight of available air power against selected areas in turn. Control of available air power must be centralized and command must be exercised through the air force commander.[42]

Additionally, the doctrine stated that "the gaining of air superiority is the first requirement for the success of major land operations (and) air forces must be employed primarily against the enemy's air force until air superiority is obtained."[43] The second mission of tactical air forces was interdiction; close air support of land forces had third priority. This doctrine was in force during the remainder of World War II and was a reflection of the doctrine developed at Maxwell Field in Alabama by the early 1930s. Using this doctrine to set up the organization, the Army Air Forces refined its system for providing air support to land forces by collocating the land and air headquarters, setting up a system for immediate support of ground troops through the Army radio net, using ground and air forward air controllers to direct this support, gaining air superiority, and isolating the battlefield through interdiction operations.[44]

World War II, like World War I, taught military planners a great deal about the effective use of air power in airland combat. Also, like the post–World War I era, the period after World War II saw us forget many of the lessons learned and, again, ignore tactical air.

The period following World War II provided the United States with the opportunity to reflect upon achievements and failures of the World War II command structure for airland combat. This was a significant input which led to a total reorganization of US military forces.

The US Joint Chiefs of Staff was established early in World War II as a counterpart to the British Chiefs of Staff committee. The two together became the supreme military body responsible for strategic direction and were known as the Combined Chiefs of Staff.[45] Also, the concept of a unified command in a theater of operations was established during World War II. However, neither the JCS nor the unified command structure was officially recognized or authorized by US law. In his 1945 message to Congress, President Harry S Truman stated that, "had we not early in the war adopted this principle of a unified command

for operations, our efforts, no matter how heroic, might have failed."[46] The president and the senior leadership of the military recognized the need for centralized direction of American armed forces.

Post–World War II

The year 1947 was a milestone in restructuring our military forces. The JCS proposed the reorganization of the military, and with strong support by President Truman,* Congress passed the National Security Act of 1947—which became effective on 17 September 1947.

In Section 2, *Declaration of Policy*, the National Security Act of 1947 states: "It is the intent of Congress to provide . . . for authoritative coordination and unified direction [of the armed forces] but not to merge them, and for their integration into an efficient team of land, naval, and air forces." This act created a National Military Establishment with three departments (Army, Navy, and Air Force); authorized a secretary of defense; created the Joint Chiefs of Staff; reorganized the unified and specified command structure; and authorized the JCS to establish such commands.

This act accomplished three things. First, it formally established the unified command structure and, thus, the doctrine of unity of command. Second, it established the framework for a three-component command organization—land, sea, and air—under the unified command structure. Third, it established the Department of the Air Force, established the Air Force as a separate service, and retained the Marine Corps under the Navy as part of the Department of the Navy. This act was the start of a movement toward centralized authority over the armed forces that culminated in the Reorganization Acts of 1958 and 1986.[47]

The separation of the Air Force from the Army in September 1947 left the Army in a "position of client dependency on the Air Force for aviation support."[48] As the newly created Air Force struggled for independence, the other services tried to carve out roles and missions

* Truman was the driving force behind the reorganization. He convinced the services to agree on the bill, thus assuring its passage.

for themselves. This led to continued discussions on employment of air power during the late 1940s. The Air Force and the Navy discussions were over the strategic offensive mission, and the Air Force discussion with the Army revolved around close air support of the land battle. The consistent emphasis by the Air Force on strategic bombardment was, some critics charged, at the expense of tactical air and other missions.[49]

This discussion over roles and missions led Secretary of Defense James Forrestal in 1948 to seek agreement among the services on their respective roles and missions. "In a series of meetings with Forrestal at Key West, Florida, in March 1948, the JCS agreed on principles and functions that were approved by President Truman and issued on April 21 [1948]."[50] The agreement was contained in the Office of the Secretary of Defense's directive entitled "Functions of the Armed Forces and the Joint Chiefs of Staff." However, even with this agreement, further clarification was needed. Forrestal assembled the Joint Chiefs of Staff at Newport, Rhode Island, in August 1948 to once again discuss the issue. The Newport Agreement resulted in another Office of the Secretary of Defense publication which set forth the exclusive responsibilities for each of the services.

Between September 1947 and July 1949, some 40 transfer orders were accomplished relating to aviation and associated personnel, functions, and facilities. On 20 May 1949 an agreement on the employment of aircraft for airland combat, the Bradley-Vandenberg Agreement, was published.[51] It was named after Gen Omar N. Bradley, Army chief of staff, and Gen Hoyt S. Vandenberg, Air Force chief of staff. This document defined Army organic aviation (i.e., rotary-wing and fixed-wing aircraft) as not to exceed 4,000 pounds.[52] For all practical purposes, the Air Force would develop all other aircraft.

This period in history for the Air Force was one of continual struggle for airmen to insure that limited air assets were applied in an effective manner. The Air Force viewed the most effective means of control to be from a theater perspective where all air forces were under the air component commander—the single manager for air. However, even within the Air Force, there were differing views. Some believed that strategic bombers should be employed separately from tactical air; thus,

there would be two subordinate air components—one for tactical air in support of land operations, and one for strategic bombing. The debate continues today. Air Force doctrine supported then, as it does today, the single unified command with three functional components as the most effective means to employ theater-assigned assets.

The newly created Air Force and the other newly reorganized military departments were trying to agree upon a workable command arrangement for war fighting. Against this backdrop, the United States entered the Korean conflict.

Korean and Vietnamese Conflicts

In Korea in 1950 the command structure again became a major problem. Since the United Nations did not have a staff structure capable of directing military operations, on 8 July 1950 President Truman appointed Gen Douglas MacArthur commander of all military forces assisting the Republic of Korea.[53] These forces were placed under the unified command of the United States by members of the United Nations.[54] As the United Nations commander, General MacArthur controlled all Allied forces. As commander of US forces, his title was commander in chief, Far East (CINCFE). The Far East Command was a unified command which reported directly to the Joint Chiefs of Staff.[55]

On 24 July 1950 General MacArthur established the United Nations Command (UNC), and he became commander in chief, United Nations Command (CINCUNC). The line of authority for the United States ran from General MacArthur to the president through the Joint Chiefs of Staff. Allied troops were assigned to the appropriate US military organization for operational control.[56]

The Korean hostilities provided a combat test of the armed forces' unification which the United States had adopted in 1947.[57] In essence, the National Security Act of 1947 provided for a theater commander, separate from his service, who would provide command authority over theater land, naval, and air forces.[58]

When the United States entered the war, the Far East Command was comprised of the Far East Air Forces, the Naval Forces Far East, and the Army Forces Far East. Instead of having an Army Forces Far East Headquarters, which would have been the land component headquarters, General MacArthur personally commanded the Army elements of the Army Forces Far East Command with his General Headquarters, Far East Command, doubling as the joint headquarters staff and the land component headquarters. The General Headquarters was almost wholly manned by Army personnel and concerned itself primarily with ground operations.[59] The air component of the unified command, the Far East Air Forces, usually operated in an independent manner.[60]

When General MacArthur recognized that the command arrangements he had established were not operating as he had planned, he established the land component command, US Army Forces in Korea. MacArthur directed the commander of the US Army Forces in Korea to communicate directly with the other two component commanders—Far East Air Forces and Naval Forces Far East—to secure the required air and naval support.[61]

Two events occurred in July 1950 that highlighted the problem of unified actions of land, naval, and air forces. The first was the introduction of bomber aircraft into the Pacific theater. The US Air Force chief of staff placed two medium bombardment groups—the 22d and 92d—on temporary duty with the Far East Air Forces. These two bombardment groups—organized as the Far East Air Forces Bomber Command—would, in conjunction with the tactical aircraft of the Fifth Air Force, provide strategic bombardment and tactical air support for the Far East Command. On 11 July the air component commander directed the Bomber Command to handle deep interdiction and strategic targets, and the Fifth Air Force to carry out tactical air operations in support of the airland battle.[62]

The second event was the massive effort to coordinate land-based and carrier-based air operations over Korea. The first two weeks in July 1950 presented a new challenge to the joint effort of coordinating air in support of theater objectives. The commander of Naval Forces Far East

had secured an exclusive use of airspace in northern Korea for naval air operations from 2–4 July 1950. Due to limited communications and the Navy's practice of radio silence while at sea, US Air Force air operations were severely hampered.[63]

These two events led the commander of the Far East Air Forces, Lt Gen George E. Stratemeyer, to conclude that to be effective, some form of centralized control was required to coordinate the mass of Air Force and Navy air. He requested that the air component commander be given operational control over all naval land-based and carrier-based aviation operating over Korea—except for aviation used in amphibious or naval tasks of mining and antisubmarine warfare. General Stratemeyer did not want to control naval aircraft when they were engaged in Navy air tasks at sea. He stated that operational control meant only control over the targets to strike within capabilities of the forces involved.[64]

Not surprisingly, the Navy did not agree with General Stratemeyer. The Navy did not want the Air Force to have operational control of naval air forces in any circumstances. A compromise was worked out on 11 July when the air component commander was given coordination authority. "When both Navy Forces, Far East, and Far East Air Forces are assigned missions in Korea, coordination control, a Commander in Chief, Far East, prerogative, is delegated to Commanding General, Far East Air Forces," read the directive drafted by the Joint Strategic Plans and Operations Group, General Headquarters, Far East Command.[65] As there was no definition for coordination authority, in effect there was no real change in the way the airland campaign was conducted.

Historian Robert F. Futrell summed up the command relationship during the Korean conflict as follows:

> Belatedly, at the end of July, improved procedures brought some order to the fantastically confused command situation in the Far East. . . . Certainly, at the outset of the Korean War, the defective theater command system prevented the fullest employment of airpower, delayed the beginning of a comprehensive air-interdiction program for more than a month [and] caused confusion and loss of effectiveness at the very time that every single aircraft sortie was vital to the survival of the Eighth Army in Korea. Had he possessed a joint headquarters

> staff, General MacArthur might never have encountered these mischievous problems.[66]

Gen Otto P. Weyland reached a similar conclusion when he wrote on 10 October 1950, "Whenever combinations of Air Force, Army, and Navy are in a joint command, it is essential that the Commander-in-Chief have a joint staff with proportionate representation of the services involved."[67]

The first full-scale experiment with a unified command structure with three components was tried in Korea. There were some false starts and heated discussions, but on the whole the system proved to be an effective means to control theater-assigned assets. One can argue that it was not always the most efficient, but it was effective.

The Korean War provided the foundation for service cooperation in a theater of operations which would be the basis for the command structure used in Vietnam—that is, there would be one commander with three components. However, not totally solved was the question of what to do with air power in support of the airland battle. Vietnam provided an arena to test a new method. Before looking at the command arrangements in Vietnam, let us review the events from 1953 to 1962.

In 1953 the Joint Chiefs of Staff lost its authority to appoint one of its members as the executive agent for a unified command.[68] This authority would now rest with the secretary of defense who, with the advice of the JCS, would appoint a military department as the executive agent. The chain of command ran from the president through the secretary of defense, to the service secretary, then to the unified commander. This chain of command proved to be unworkable. "President Eisenhower called that arrangement 'cumbersome and unreliable in time of peace and not usable in time of war'."[69]

That arrangement did not change until 1958. The Defense Reorganization Act of 1958 took the military departments and services out of the command chain. The chain of command, as it stands today, runs from the president, to the secretary of defense, through the Joint Chiefs of Staff, to the unified (joint) commander. It is important to note that none of the service chiefs—for example, the chief of staff

of the Army—has command authority over US combatant forces. That authority is vested in the unified or specified commander, who is the joint force commander.

Joint Chiefs of Staff (Joint Pub) 0-2, *Unified Action Armed Forces (UNAAF)*,* outlined the changes brought about by the National Security Act of 1947, as amended in 1949, and the Defense Reorganization Act of 1958. Briefly, these acts established the three separate services—with the US Marine Corps coming under the Department of the Navy—and the unified command structure. The experiences of World War II and Korea formed the basis for the US command structure for the Vietnam conflict.[70]

Between 1950 and 1965 the Army and Air Force engaged in discussions over the use of tactical air in support of the airland battle. The operational requirements and experiences of the Korean War intensified Army concern about the tactical air mission, and especially the close-air-support mission. "This controversy was prevalent in World War II from the early days of North Africa to the invasion of Europe, and it persisted throughout the Korean War." [71] This concern drove the Army to acquire helicopters which exceeded the weight limits established by the Bradley-Vandenberg Agreement of 1949. Also, the Army expressed concern over the responsiveness of tactical air to the needs of the ground troops in Korea. Some elements within the Army never accepted the idea of centralized control of air power under a single commander and argued for air assets to be divided among the corps.[72] "There can be little doubt that the majority [of Army Senior officers] would have preferred to see close air support resources assigned to and under the control of division and corps commander."[73]

After extensive discussion between the two services, a special memorandum of understanding was signed by Secretary of the Army Frank Pace and Secretary of the Air Force Thomas K. Finletter on 2 October 1951.[74] This became known as the Pace-Finletter Agreement and sought to "draw a line between the two services

* Joint Pub 0-2 replaced JCS Pub 2 in 1986.

based upon functions rather than aircraft weight."[75] This agreement stipulated that the Army would use its aircraft, to include helicopters, as an integral part of its components for "the purpose of expediting and improving ground combat and logistical procedures within the combat zone," but would not duplicate the functions of Air Force aircraft.[76] The Pace-Finletter Agreement further defined Army organic aviation as fixed-wing utility aircraft and rotary-type aircraft with the functions of aerial observation; control of Army forces; command, liaison, and courier missions; aerial wire laying; and transport of Army supplies within the combat zone.[77]

The Army became more aware of the potential of the helicopter, and this drove yet another round of discussions between the Army and Air Force and consideration of the issue by the Joint Chiefs of Staff. Under pressure by the secretary of defense, the two service secretaries drew up another letter of agreement dated 4 November 1952. The second Pace-Finletter Agreement expanded the list of functions of Army organic aviation assets to include aeromedical evacuation and artillery and topographic survey. It also returned to a weight-restriction formula which imposed a 5,000-pound limitation on Army fixed-wing aircraft, but with a caveat that the weight restriction would be subject to review by the secretary of defense—in light of technical development and assigned missions. The agreement also contained an expanded definition of the *combat zone*.[78]

The Air Force, still placing emphasis on strategic bombardment, ignored Army advances in its organic aviation. In fact, the Air Force issued a policy statement shortly after the Pace-Finletter Agreement of 1951 that the Air Force would not actively oppose the Army if it "can procure sufficient funds to perform supporting missions (in reference to missions the Army and Air Force were given in the Functions Paper)."[79] It appears this policy statement actually encouraged the Army to build up its organic aviation.

During 1951 to 1956 the Army increased its inventory of assault helicopters and fixed- and rotary-wing assets. At the end of the Korean War, the Army had almost 3,500 air vehicles.[80] In 1960 the

Air Force became concerned about the potential duplication of effort and competition with its own tactical air assets. This was caused in part by the Army increasing its aircraft authorization per division from 26 to 39, and subsequently to 50 for the Pentomic Division and to 103 in the Reorganization Objectives, Army Division (ROAD) divisions. Once again, after neglect, the Air Force turned its attention to tactical aviation in support of airland combat.

The years 1957 to 1961 were characterized by numerous discussions among the services over roles and missions. Charles E. Wilson, secretary of defense, became concerned over the numerous issues concerning roles and missions. In late 1956 he issued a comprehensive memorandum covering five problem areas—which included use of aircraft by the Army.[81] Department of Defense (DOD) Directive 5160.22, *Clarification of Roles and Missions of the Department of the Army and Air Force Regarding Use of Aircraft*, issued 18 March 1957, rescinded the 1952 Pace-Finletter Agreement. This directive now defined the combat zone as "not more than 100 miles forward of the general line of combat . . . and its extension to the rear of the general line of combat . . . normally . . . about 100 miles."[82] Thus, the combat zone in which Army aircraft were authorized to operate was roughly 200 miles in length—100 miles either side of the forward edge of the battle area. The directive also established a weight limitation of 5,000 pounds for fixed-wing and 20,000 pounds for rotary-wing Army aircraft. Finally, the directive stated that the Army Aviation Program would not provide aircraft to perform strategic and tactical airlift, tactical reconnaissance, interdiction of the battlefield, or close air support.[83] It is interesting to note that the directive prohibited the Army aircraft from providing close air support, but the directive did allow the Army to enlarge the overall function of its organic aviation, thereby providing an opportunity for the Army eventually to move into close air support.[84] A review of the original Army aviation functions, prescribed by directives of World War II and as modified by the Pace-Finletter Agreement and DOD Directive

5160.22, indicates an increase in Army aviation capabilities over those originally envisioned.

The Defense Reorganization Act of 1958; DOD Directive 5100.1, *Functions of the Department of Defense and Its Major Components*, 31 December 1958 (sometimes called the "Functions Paper"); and Joint Chiefs of Staff Publication 2 (JCS Pub 2), issued in November 1959, all contain the phrase "the Army includes such aviation as may be organic to its needs."

Developments on the political side also influenced doctrine, organization, and concepts for airland combat. For example, the American people agreed with President Eisenhower that never again would we be involved in a long, inconclusive war like Korea. To prevent this from recurring, the US developed a policy of massive retaliation which was in effect from 1953 to 1961. Since the emphasis was upon nuclear weapons, the shift in doctrine was toward strategic and tactical nuclear weapons and the systems to carry them. This very much encouraged the Air Force to ignore tactical air in support of airland combat in favor of strategic and tactical nuclear systems.

In 1961 President John F. Kennedy made a complete change in our policy. Kennedy did not like the nuclear-only option and so developed the policy of flexible response. Flexible response authorized appropriate forces to deter, fight, and win at any level of conflict. As a result of this policy, tactical air—and the Army—received new life. With the ensuing buildup of tactical air, the Air Force was, for the first time in 50 years, ready for a war during peacetime—conventional or nuclear—an advantage that could have made a difference in Vietnam.

The Vietnam experience provided another opportunity to organize US military forces for the most efficient application of firepower.[85] Yet, we were to experiment again and again with different methods. With a clear set of instructions—Joint Pub 0-2—the United States should not have had difficulty; but, once again we had to face some tough organizational questions.

The initial command structure used in Vietnam evolved from the Military Advisory Group that was established on 17 September 1950. In the beginning the role of the US Military Advisory Group was very limited. After the fall of Dien Bien Phu in 1954, however, that role dramatically changed. On 1 November 1955 the Military Advisory Group was redesignated the Military Assistance Advisory Group, Vietnam. From 1955 to the early 1960s the US military was involved only in organizing and training Vietnamese units; it had no combat role.

On 8 February 1962 the Military Assistance Command, Vietnam—known as MACV—was formed replacing the Military Assistance Advisory Group.[86] MACV was an operational headquarters and had the staff elements needed if direct military operations were required. In discussions over command arrangements, the Army and Air Force argued that MACV should be a theater unified command with land, naval, and air components. The Navy opposed such an arrangement and recommended Pacific Command function as the unified command structure for Vietnam where the commander in chief Pacific Command (CINCPAC)—a naval officer—would control all forces assigned to Vietnam. CINCPAC won, and military operations in Vietnam came under the Pacific Command with MACV as a subunified command under Pacific Command.[87] However, the debate continued about the structure of such a subunified command.

The command structure used in Vietnam in 1962 was as follows. Pacific Command, the unified command—under the JCS—had three components: the air component, Pacific Air Forces; the naval component, Pacific Fleet; and the land component, US Military Assistance Command, Vietnam, which was also the subunified command, MACV. Under the air component—commander in chief Pacific Air Force (CINCPACAF)—there was the Thirteenth Air Force, with the 2d Air Division advanced echelon at Tan Son Nhut. Under the naval component—commander in chief Pacific Fleet (CINCPACFLT)—there were the Seventh Fleet, Fleet Marine Force, and Task Force 77. Under the land component and subunified

command—MACV—were the III Marine Amphibious Force, US Army Support Group, Vietnam, and the assigned Army combat units.

As the war expanded into Laos, new questions arose over command relations. On 12 May 1964 President Lyndon B. Johnson sent a joint task force—Joint Task Force 116—composed of Army, Air Force, and Marine units to Thailand.[88] Joint Task Force 116 was deployed to show US resolve about Laos.

This new arrangement presented a problem for the Air Force and Army. Air Force assets were fragmented among three commands: Joint Task Force 116, air units from the USAF's Tactical Air Command; South Vietnamese air units under the 2d Air Division advanced echelon; and air units in Thailand under the Thirteenth Air Force. The question of command relationships between Joint Task Force 116 and MACV was particularly difficult for the Army.[89]

The Army recommended that all forces in Vietnam and Thailand be placed under MACV.[90] The Navy disagreed with the idea of a single command under the Army in Vietnam. The Navy preferred separate headquarters in Vietnam and Thailand.[91] CINCPAC recommended to the Joint Chiefs of Staff that MACV have two deputies—one for Vietnam and one for Thailand—with the commander, United States Military Assistance Command, Vietnam (COMUSMACV), commanding both MACV and Military Assistance Command, Thailand (MACTHAI).[92] The JCS agreed, and Joint Task Force 116 was deactivated and replaced by MACTHAI.

The debate was not yet over. In 1963 and 1964 the services continued discussing the complicated command structure in the Pacific, and in particular Southeast Asia. The Air Force chief of staff proposed that an airman should be the deputy commander of MACV. COMUSMACV disagreed with the proposal as he was satisfied with his deputy being an Army officer. The Air Force also proposed that MACV be organized along the lines of a theater of

operations with MACV being a unified command having a land and air component.[93]

The JCS continued to discuss the issue in 1964. The debate centered around making MACV a unified command. The JCS were divided on the issue, and to break the deadlock, COMUSMACV proposed that MACV be a specified command reporting directly to the JCS. There is a fundamental difference between a unified and specified command. "A specified command recognizes the dominance of one service in military operations [while] a unified command represents a multiservice activity."[94] COMUSMACV's proposal would make the US Army the executive agency for the specified command. CINCPAC opposed this idea, and the JCS agreed. The issue of MACV becoming a specified command never came up again, but the issue of a unified command for MACV continued.[95] Thus, by the end of 1964 the command organization was still not settled.[96]

In 1964 CINCPAC opposed command arrangement changes in the Pacific. He believed that the war against North Vietnam should be fought by two components, Pacific Air Forces and Pacific Fleet, while the war in South Vietnam and Laos should be fought by forces assigned to MACV and supported by Pacific Fleet and Pacific Air Forces. In 1965 the Air Force again raised the issue of having an airman as the deputy commander of MACV. These two issues were discussed by the Joint Chiefs of Staff, and on 25 June 1965 the position of air deputy for MACV was approved. However, the command structure did not change. MACV was still a subunified command under Pacific Command, and the deputy commander for MACV was a soldier, but a new position—deputy commander for air operations—was created. Prior to this change, there was no single air component commander. The naval component was handled by CINCPAC. The air deputy position was then, in effect, the air component under the subunified command, MACV. The air deputy exercised operational control over Air Force assets, but his authority was specifically excluded from control over Army helicopters and Marine aviation.[97]

Although the Air Force raised the issue of a single manager for air with MACV numerous times, the command arrangement issue lay essentially dormant from 1965 through the end of 1967. In January 1968 the problem of the fragmentation of the air effort became very clear with the battle for Khe Sanh.[98] The issue of a single manager for air thus came to the forefront.

MACV Directive 95-4, 6 May 1965, had excluded Marine aviation from control of the MACV air deputy; Marine forces were employed in I Corps (the northernmost corps area in South Vietnam) under the III Marine Amphibious Force command. "Under this directive [and arrangement], air power was further fragmented by the establishment of all elements of two separate tactical air forces in the theater, one controlled by the theater air component commander and the other by the equivalent of a corps commander (III MAF)."[99]

The Army and Air Force supported a single manager for air for all tactical air in Vietnam.[100] The Navy and Marine Corps objected. The issue was debated by the Joint Chiefs of Staff in early 1968. On 15 May 1968 the deputy secretary of defense decided in favor of the Army and the Air Force. US Air Force and US Marine Corps air assets in South Vietnam came under the direct control of the air deputy, MACV.[101] The debate was not ended, but the creation of a single manager for the air war in South Vietnam did function as proposed until the end of the Vietnam War.[102]

American involvement in the Vietnam conflict officially ended in 1973, drawing to a close a war that challenged our military in many ways—not the least of which was deciding the command arrangement for airland combat. Gen William C. Westmoreland, commander of MACV from 1964 to 1968, summed up the command arrangements when he stated:

> In view of this [Vietnam] command arrangement, seeds of friction not unlike those that had plagued MacArthur . . . during World War II were present. As I took command of MACV, the CINCPAC . . . was succeeded by one who was as determined as I to make the command arrangement work . . . what many failed to realize was that not I but Sharp (CINCPAC) was the theater commander . . . my responsibilities and prerogatives were basically confined within the

> borders of South Vietnam. Admiral Sharp commanded the Navy's Seventh Fleet, over which I had no control (and) when the bombing of North Vietnam began in . . . 1965, Admiral Sharp controlled that too. . . . My task would have been easy had I headed a "Southeast Asia Command" (unified command).
>
> Creating a unified command for all of Southeast Asia would have gone a long way toward mitigating the unprecedented centralization of authority in Washington. . . . Instead of five "commanders"—CINCPAC, COMUSMACV, and the American ambassadors to Thailand, Laos, and South Vietnam—there would have been one man directly answerable to the President on everything. . . . Such an arrangement would have eliminated the problem of coordination between the air and ground wars that was inevitable with CINCPAC managing one, MACV the other.[103]

The Vietnam conflict, like the Korean conflict, was primarily an airland campaign, and for the Air Force it was a tactical air campaign. It did, however, include tactical employment of strategic bombers as well as use of tactical fighter-bombers hitting strategic targets in North Vietnam.

Tactical air power was much more useful in the conventional war inside South Vietnam and in the interdiction campaign in Laos and North Vietnam. The airland battle employment gave the United States a great advantage in that the Air Force enjoyed air superiority over the battle area and could concentrate upon close air support and interdiction missions in support of the airland battle. The Air Force used a system first initiated in World War II to conduct airland combat. This system called for preplanned sorties backed up by "on-call" (alert) aircraft, all in close coordination with the Army.

After the conclusion of the Vietnam conflict, unlike our previous three wars, the United States did not forget the importance of air and land assets for the conduct of future airland combat. The current US policy of flexible response calls for a balance between conventional and nuclear weapons. With an apparent nuclear parity between the US and Russia, it appears that a conventional war, requiring ground forces and tactical air, is the most likely kind of conflict we face today.

The period after the Vietnam War provided the military services another opportunity to profit by past experience when designing command structures to fight wars. Two recent examples are the Rapid

Deployment Joint Task Force (which is now called the US Central Command) and Space Command discussions. On 24 April 1981 the secretary of defense announced that "over a period of three to five years, the Rapid Deployment Joint Task Force (RDJTF) should evolve into a separate unified command—with its own geographic responsibilities, service components, forces, intelligence, communications, logistics facilities, and other support elements."[104] In setting up new unified commands, the military has an opportunity to establish a command structure with clear and direct lines of authority and responsibility.[105]

1973 to the Gulf War to the Present

The past years have provided military planners with an opportunity to apply lessons learned from past wars to set up a command and control system to accomplish airland combat. The two major issue areas have been the US Army's AirLand Battle concept and the US Air Force–US Marine Corps discussion over tactical air assets during sustained operations ashore.

The current discussion of command and control of tactical air for sustained operations ashore began during the Vietnam conflict. The Air Force raised the question of centralized control of air power many times. Although this question has been raised, and answered numerous times in the past, it never has really been resolved—each time it was "resolved" someone brought it up again, and again it was discussed and once again resolved. During World Wars I and II and during the postwar eras of 1947–50 and 1953–65, the issue was discussed by the Army and Air Force, and they agreed that air power would be centrally controlled by the air component commander. Then came Vietnam and the introduction of US Marine Corps (USMC) forces in a sustained-operations-ashore role. This was a relatively new role for Marine forces because in past conflicts the Marines participated primarily in amphibious operations and had little or no play in sustained operations ashore, although they did have forces in Korea to carry out sustained operations ashore. When the issue was raised

in Vietnam, the Army and Air Force chiefs decided to place all aviation assets under the air component commander. The Marine Corps and Navy did not agree, but in time reluctantly consented to this arrangement.*

After Vietnam the question of USMC forces being committed to sustained operations ashore came up again during the review of operations plans in NATO.[106] The Marine Corps wanted to employ its forces as an integrated team of land and air assets under its doctrine of the Marine Air/Ground Task Force (MAGTF). The US Air Force and Army and allied forces disagreed and argued for employment of Marine forces in accordance with combined doctrine and in line with Army and Air Force interpretation of Joint Pub 0-2 on integrating armed forces as a team of land, air, and naval forces. The issue was debated in 1979, and in December 1980 the Marine Corps and Air Force presented their views to the joint chiefs. After discussion the joint chiefs reached an omnibus agreement whereby they agreed that as far as possible the integrity of the Marine Air/Ground Task Force would be maintained, but the joint force commander would be the final authority on any command arrangement. This agreement is still the operative one and is used when developing command structures today.

The agreement really did not resolve the issue, because it left the decision of who controls the Marine Air/Ground Task Force up to the unified and specified commanders. Since the services provide forces to the commanders of unified and specified commands, the decision is really left to the individual services. As a result, recent command structures (e.g., the Central Command discussion) have included four components—Army, Navy, Air Force, and Marine—as opposed to the "functional three" (air, land, and naval) which we find in the current unified command structure.

In airland combat, the command structure to accomplish theater warfare becomes very complicated. The commander—

* It took three years to get their grudging agreement.

joint task force, unified or specified, subunified—now has an additional component commander. Instead of dealing with ground and air forces, the commander deals with these two plus a Marine component commander when US Marine forces are operating in a sustained-operation-ashore role. The Army and Air Force do not agree with this method. They have expressed a strong desire to have all land forces come under the land component commander and all air forces come under the air component commander. On the other hand, the US Marine Corps and Navy argue for the additional Marine component. Now add to this the issue of naval air assets operating in the airland campaign in an *in-support-of* role and you can see how complicated the command structure becomes.

The other issue discussed was the US Army's AirLand Battle concept. Aside from the question of centralized control of air power, this issue has generated considerable discussion and has the potential for becoming the catalyst for future joint doctrine on airland combat.

The issue first appeared in the midseventies when Army officers at Fort Leavenworth, Kansas, began looking at the integrated battlefield. The Army invited officers from the Air Staff and Headquarters Army Training and Doctrine Command (TRADOC) and from Tactical Air Command (TAC) to participate in discussions on how to integrate chemical, nuclear, and conventional weapons on the modern battlefield. Discussions ensued over how to use tactical air on the battlefield. At about the same time TRADOC was looking at the extended battlefield, and discussions were ongoing in NATO over battlefield air interdiction. The period 1976 to 1980 was marked by intense discussions over integrating air and land assets on the modern battlefield.[107]

In 1978 the Army circulated its concept to the Army Staff and Air Staff. Gen Donn A. Starry, then commanding general of the US Army's Training and Doctrine Command, began an extensive campaign to gain acceptance of this "new" concept. After much discussion the headquarters staffs of the Army and Air Force

coordinated the agreement. It was signed in 1981 by Lt Gen Jerome F. O'Malley, the Air Force's deputy chief of staff for plans and operations, and by Lt Gen Glen K. Otis, the Army's deputy chief of staff for operations and plans. The O'Malley-Otis Agreement defined apportionment and allocation* of offensive air support. This was an important first step in the development process of joint war fighting for airland combat. The emerging Army doctrine got its name in March 1981 when General Starry used *AirLand Battle* to describe the Army concept. From 1981 to 1983 more discussion ensued on how to fight the AirLand Battle; and in 1983 the two service chiefs—Gen Charles A. Gabriel and Gen John A. Wickham—signed a memorandum of agreement on 22 May 1984. The Gabriel-Wickham Agreement addressed broad, across-the-board, war-fighting issues, and identified 31 specific initiatives which have the potential to enhance our war-fighting capability and have an impact upon the way future airland combat is conducted. The period from 1984 to 1989 saw a refinement of the AirLand Battle concept envisioned by General Starry in 1980. In early 1990 the doctrine underwent a reexamination. It should be noted that AirLand Battle doctrine is US Army doctrine and has not been formally accepted by the US Air Force as Air Force doctrine.

The Army is currently rewriting its AirLand Battle doctrine in light of the current changes in East-West relations. The fast-paced geopolitical changes have forced the Army to rethink its war-fighting strategy. The Army is developing a new strategy entitled "AirLand Battle—Future." This strategy is based upon a smaller but versatile, deployable ground force. All indications are that this strategy will still have the corps as the centerpiece of its AirLand Battle doctrine. The Army will use smaller, lightweight units to fight the battle.[108] The US Army's Training and Doctrine Command updated the Army's AirLand Battle doctrine in 1991 in a working draft publication entitled "Trends and Implications for

* See Terms and Definitions. *Apportionment* is basically the determination and assignment of the TOTAL expected effort expressed in a percentage or priority; *allocation* is the translation of the apportionment into total number of sorties.

the US Army's Future Airland Battle." This publication states that AirLand Battle—Future is an evolutionary concept that will project the airland battle into the next century. The Army is in transition from a forward defense focus to a force focused upon projection and deployability. The paper goes on to describe the why and how of the Army's disciplined evolution as a strategic force for the 1990s and beyond with a focus at the operational level. However, the central issue of joint operation remains the same and will not change in the future—the requirement for cooperation of land and air forces will always be there.

In 1986 the National Security Act of 1947 and the Department of Defense Reorganization Act of 1958 were amended by the Goldwater-Nichols Reorganization Act of 1986. This act strengthened the role of the joint chiefs and reaffirmed the unified command structure. The Goldwater-Nichols Act, as it relates to airland combat, places clear responsibility on the commanders (the joint commanders) of unified and specified combatant commands for mission accomplishment—in essence reaffirming the authority of the unified commander to organize his forces as needed to accomplish the assigned mission. This in effect creates the environment for the joint commander to establish component commanders to carry out the unified mission unencumbered by the services' staffs (i.e., without having the chief of Naval Operations Staff or the Air Staff or the Army Staff "approve" the organization). However, the joint chiefs would be the final approval authority of any command arrangement for a unified command; so the services do contribute to the "discussion" through their respective chiefs when the issue is discussed in the tank.

Also in 1986, Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, was published (Joint Pub 0-2 replaced JCS Pub 2). This joint publication establishes the principles and doctrine that govern the activities of the armed forces when two or more of the services are acting together. This publication also sets forth "principles and doctrines to govern the joint activities and performance of the armed forces of the United States" ("Purpose," p. 1). It provides guidance

governing the exercise of command by unified, specified, and joint force commanders. Joint Pub 0-2 provides military guidance for use by the military departments and armed forces in the preparation of their detailed plans. The integration of forces, provided by the services for assignment to combatant commands, is known as the unified command structure. The underlying principle of unified operation is, of course, the principle of unity of effort. Unity of effort is defined as an efficient team of *land*, *naval*, and *air* forces which is based on the principle that "effective use of the military power of the nation require[s] that the efforts of the separate Military Services be closely integrated" (p. 1-1). This is done to prevent unnecessary duplication or overlapping of functions among the services. This integration should enable the armed forces to achieve a high degree of cooperation by coordinating the operations of the team to promote efficiency and economy and to prevent gaps in responsibility—that is, to fight more effectively.

It should be noted that the Goldwater-Nichols Reorganization Act and Joint Pubs 0-2 and 1-01 assign responsibility to the joint staff for the development of joint doctrine. The services participate in the development of joint doctrine. For example, the Air Force developed, in coordination with the other services, joint doctrine for air defense of land areas, including the United States.

In the summer/fall of 1990, after Saddam Hussein invaded Kuwait, the US military was faced with a serious problem: How to respond to a crisis and defend our ally, Saudi Arabia, from Iraq. For the Air Force, it had to develop a strategic air campaign and a plan to support our land forces.

To support the joint force commander, US commander in chief, Central Command (CINCCENT), the US Air Force provided the joint force air component commander (JFACC)—as specified in Joint Pub 3-01.2 (formerly JCS Pub 26). The JFACC, who was commander of US Central Command Tactical Air Force (COMUSCENTAF), was charged to ensure that unity of effort was achieved, to serve as the Area Air Defense Commander and as the

Airspace Control Authority, and finally, to ensure proper application of air power in support of Central Command (CENTCOM) objectives.

Because the US was prepared for use of its forces in such a situation—that is, the USCENTCOM—and used that plan, the outcome of the Gulf war was predictable. For the first time, the US did not experiment with a command structure, but used the one specified in joint publications. Specifically, the use of a JFACC allowed the joint force commander, CINCCENT, to effectively conduct the war. The agreed upon definition of JFACC conforms to the spirit and intent of the Goldwater-Nichols Reorganization Act of 1986. Also, the JFACC enhances unity of command and, hence, unity of effort.

The Air Force had three major problems to solve from the onset. The first was the defense of Saudi Arabia, the second was the beddown of US air, and third, the development of the air campaign.

The success of the air campaign may be directly linked to the success of the JFACC concept. With a single commander—USCINCCENT—who reported directly to the president, through the chairman of the Joint Chiefs of Staff and the secretary of defense, who had a single person—the JFACC—responsible for the preparation and execution of the air campaign and backed by true experts in air warfare, truly, then did we as a nation use unity of command to its fullest.

The Future

The change in the international political environment that started in late 1989 could tempt one to doubt that any aspect of our future situation could be predicted with real validity, but that is not the case.[109] We can expect a relative decline in superpower influence in the world and may have to cope with a superpower succession because one nuclear-armed power, the USSR, has lost its standing in favor of a new European concentration of influence. While arms control will continue to be a fertile field for the development of

mutual confidence, it will become increasingly evident that arms control treaties serve essentially to place milestones marking the passage of evolving security relationships but not their ultimate destination. As the changes in central and eastern Europe engender greater economic productivity, international competition can be expected to increase, both for markets and for resources. International interdependence will never be higher. In this environment we must assume that the United States will endeavor to continue the global reach of its influence and will tailor its military capabilities appropriately to exercise balanced, stabilizing, global power.

The size and pace of modernization of Soviet nuclear and conventional force structure has not yet begun to show signs of significant change to reflect reforms in Soviet intentions. Crucially important, through this transitional period, is the resolute maintenance of ample deterrent forces. In the earlier years of the bipolar standoff, the United States did not feel confident that it could assure deterrence without a rather massive nuclear weaponry advantage. With years of experience in a relatively stable relationship, deterrence was maintained with decreasing numbers and size of nuclear weapons. The current turbulence in the East may undercut assumptions about the Soviets' motivations and place limitations on national decision-making operatives used in the stable past.

US involvement in major conventional conflict is changing so significantly that an entirely new concept needs to take shape before we can see major future conventional missions with any clarity. Rather than standing with the North Atlantic Treaty Organization to defend European countries against the old Soviet Union (now Russia), we will be standing with all the Europeans—East and West—to help preserve stability in the midst of a period of dynamic and potentially dangerous change. Outside of Europe we can expect to find a world where major regional powers try to profit from the relative decline in superpower influence. The fact that this comes at a time of increased worldwide competition for markets and resources and even greater interdependence means that our ability to project power globally will become increasingly important for the

protection of the full range of US interests around the world. The most spectacular expansion of military roles is taking place at lower levels of conflict. Events in Central America highlight the rapidity with which US political and economic interests, interfacing with third-world problems, can escalate to the point that US military intervention is justified. A whole new area of antidrug operations is opening up. Security and humanitarian assistance programs require military involvement. Sovereignty protection and the environmental and resource policing of the global commons all imply military capabilities exercised in support of the active role we can expect the United States to continue to play in the world.

Land, naval, and air forces all make their contribution to this strategy. Ground forces seize and hold strategically dominant locations, naval forces control important ocean and coastal areas, and air forces extend potentially decisive power. This view of joint operations is important if we are to avoid a conceptual trap caused by structuring our capabilities around one strategy—naval, ground, or air.

In the era of shrinking defense budgets, hard decisions need to be made to insure that the strategy we follow is a winning one—one that accords with a realistic view of the world, and one that enables us to play from our strongest suit.

We do not know what kind of war the US military will fight in the future. The only thing we can say with any degree of certainty is that military forces will be required, to some degree, to protect our national interests. Since we must be prepared to defend the US against a wide range of threats, it is important that we recognize the fundamental soundness of joint actions whereby the services provide, train, and equip forces to fight under a unified command structure.

Summary

George Santayana once remarked that those who cannot remember the past are condemned to repeat it.[110] If the United States

is to arrive at a logical command structure to accomplish airland combat, we must avoid past mistakes when setting up command arrangements.

Very little has changed over the past 70 years. The same issues that existed during World War I are still with us today. At times we "solve" a problem only to "forget" what the solution was when faced with the same problem years later. A good example is the question of centralized control of air power. Policy has shifted toward jointness over these years. Prior to 1942 we had the doctrine of mutual cooperation. After 1942 we developed the unity of effort doctrine. In summary, the lesson we should learn from our experiences with command structures during wars over the past 70 years is this: When developing a command structure, we should place all theater-assigned assets under a single unified commander. The forces should be subdivided, under this commander, into three components—generically called land, naval, and air components. All forces should operate as a coherent team under this unified command structure, which must have clear and direct lines of authority and responsibility. The review of the command structures used over the past seven decades tends to show that we have moved toward unity of command but have never fully achieved it.[111]

The next chapter discusses these issues—sustained operations ashore and airland combat—in greater detail and provides the framework for our current organization for airland combat.

Notes

1. I am deeply indebted to Col John F. Shiner, USAF, Retired (Formerly of the Office of Air Force History) for his help in developing this chapter of the book.

2. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 16 March 1984, 1-3. Field Manual (FM) 100-5, *Operations*, 20 August 1982, discusses these same thoughts in chapters 2 and 7. For example, FM 100-5 uses the expression "achieve a position of advantage from which to destroy or threaten the destruction of the enemy," 2-4.

3. AFM 1-1, 1-3.

4. I. B. Holley, Jr., *Ideas and Weapons* (Washington, D.C.: Office of Air Force History, 1983), v.

5. Giulio Douhet as quoted in Holley, 15.

6. Holley, 3–5. See also Charles Oman, *A History of the Art of War in the Middle Ages* (London: Methuen, 1898), 597–615.

7. Holley, 5, as quoted from Oman, 57–124.

8. Ibid. Oman, as quoted in Holley.

9. Ibid.

10. Ibid., 5–6.

11. Ibid., 19.

12. See Col Thomas A. Cardwell III, USAF, *Command Structure for Theater Warfare: The Quest for Unity of Command* (Maxwell AFB, Ala.: Air University Press, 1984), 7–24, for additional background information.

13. Lee Kennett, "The First World War, 1914–1918," Office of Air Force History working paper (Washington, D.C.: Office of Air Force History, n.d.), 7.

14. John Frederick Shiner, "The Army Air Arms in Transition, General Benjamin D. Foulois and the Air Corps, 1931–1935" (PhD diss., Ohio State University, 1975), in Kennett, 1.

15. Kennett, 7.

16. Ibid., 1–54.

17. Ibid., 12.

18. Ibid., 19–21.

19. Extracted from German Manual, "The Attack in Position Warfare," 1 January 1918, in Kennett, 20.

20. Ibid., 21.

21. Ibid., 22–33.

22. Ibid., 24–39.

23. Ibid., 40.

24. Ibid., 41–50.

25. Ibid., 51.

26. Ibid., 53–54.

27. Portions of this section were adapted from Cardwell, 7–10; and from Alfred Goldberg and Lt Col Donald Smith, USAF, *Army–Air Force Relations: The Close Air Support Issue*, Rand Report R-906-PR (Santa Monica, Calif.: Rand Corporation, October 1971), 2–8. (Previously classified. Declassified in 1982.)

28. Cardwell, 8.

29. John D. Millett, *The Organization and Role of the Army Service Forces* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1954), 26.

30. Ibid., 25.

31. Executive Order 9082, Reorganization of the Army of the United States and Transfer of Functions within the War Department, 28 February 1942.

32. Ibid., and Millett, 37.

33. Millett, 37.

34. "Command and Employment of Military Forces," USAF Extension Course Institute, vol. 2, pt. C (Maxwell AFB, Ala.: Air War College, 1952), 5.

35. Ibid.

36. Ibid.

37. Gen W. W. Momyer, USAF, Retired, *Air Power in Three Wars* (Washington, D.C.: Government Printing Office, 1978), 50.

38. General Eisenhower was under considerable pressure to have all American ground forces placed under General Montgomery's command and to have a single air component commanded by the British. The American forces opposed this. To appease both the British and the Americans, Eisenhower elected to retain ground forces under his authority, and to keep tactical air and RAF bombers under the British and US strategic bombardment under the Americans. Thus, bowing to political pressures, he compromised the command structure. Momyer, 46–52.

39. Ibid., 51.

40. Ibid., 50–51, for a detailed discussion.

41. Ibid., 51.

42. FM 100-20, *Command and Employment of Air Power*, July 1943, 16.

43. Ibid.

44. Ibid.

45. John L. Frisbee, "Command Lines for Combat Force," *Defense 81*, August 1981, 10. See also Frisbee, "New Life for JCS at Forty," *Air Force Magazine*, February 1982, 86. The Joint Chiefs of Staff first met on 9 February 1942 having been established by President Franklin D. Roosevelt following the Arcadia Conference of December 1941–January 1942. President Roosevelt and United Kingdom (UK) Prime Minister Sir Winston Churchill agreed to form the US-UK Combined Chiefs of Staff as the military organization to provide strategic direction for American and British forces. The US Joint Chiefs of Staff was the counterpart of the British Chiefs of Staff committee which was organized in 1923.

46. Frisbee, "Command Lines," 10.

47. Ibid.

48. Goldberg and Smith, 6.

49. Ibid.

50. Ibid., 7–8.

51. Ibid., 8. For a detailed discussion on unification, see Warren A. Trest, "The Legacy of Halfway Unification," *Air University Review* 37, no. 6 (September–October 1986): 63–73.

52. Goldberg and Smith, 9.

53. Robert F. Futrell, *The United States Air Force in Korea, 1950–1953* (New York: Duell, Sloan, and Pearce, 1961), 38. Futrell gives an excellent review of the events leading up to the Korean War. See pages 38 through 55.

54. Message, JCS-85743, Joint Chiefs of Staff to commander in chief, Far East, 12 July 1950.

55. Momyer, 52.

56. Roy E. Appleman, *United States Army in the Korean War, South to the Naktong, North to the Yalu* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1961), vii.

57. Ibid., and Futrell, 43.

58. Futrell, 44. As early as 1946, the Joint Chiefs of Staff had issued a directive (JCS 1259/27, 11 December 1946) to all theater commanders requiring unified commanders to establish a joint staff to provide the specialized knowledge and advice needed to employ land, naval, and air forces. MacArthur took three years to acknowledge this directive. He established a Joint Strategic Plans and Operations Group of the General Headquarters, Far East Command, on 20 August 1949. However, in reality, the unification principle never reached the highest level of his command. Even in June 1950, the General Headquarters, Far East Command, demonstrated an absence of any vestige of unification principles.

59. Ibid. Conclusion taken from Far East Air Forces Report I, 24–25, and reported in Futrell.

60. Ibid.

61. Ibid.

62. Lt Gen George E. Stratemeyer to commanding general, Far East Air Forces (CGFEAF) Bomber Command, Mission Directive, 11 July 1950, in Futrell, 45.

63. Ibid., 48.

64. Ibid.

65. Gen Edward M. Almond to commander, US Naval Forces Far East and CGFEAF, Mission Directive, Coordination of Air Effort of Far East Air Forces and United States Naval Forces Far East, 15 July 1950, in Futrell, 50.

66. Futrell, 55.

67. Ibid.

68. The JCS may designate one of its members to act as their executive agent to execute functions or activities for which they are responsible and for which they have been assigned a specific responsibility. Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, December 1986, par. 30291.

69. Frisbee, "Command Lines," 11.

70. See Cardwell, 89–98, for a review of the provisions of Joint Pub 0-2.

71. Ibid., and Momyer, 39.

72. Goldberg and Smith, 9.

73. Ibid., 10.

74. Ibid.

75. Ibid.

76. Ibid.

77. Ibid.

78. Ibid., 11. The *combat zone* was defined as an area "normally understood to be 50 to 100 miles in depth," and the Pace-Finletter Agreement included a statement

that "nothing contained herein is intended to or shall be construed as modifying, altering, or rescinding any of the assigned functions of the Armed Forces [the Key West Agreement, dated April 21, 1948]."

79. Ibid., 11–12.

80. Ibid., 12.

81. Ibid.

82. Ibid., 13.

83. Ibid., 14.

84. DOD Directive 5160.22, *Clarification of Roles and Missions of the Departments of the Army and Air Force Regarding Use of Aircraft*, 18 March 1957. Now cancelled, served its purpose.

85. Ibid., and Goldberg and Smith, 15.

86. Col Harry G. Summers, Jr., USA, *On Strategy: The Vietnam War in Context* (Carlisle Barracks, Pa.: Strategic Studies Institute, US Army War College, April 1981) provides an insight into military theory and strategy used in Vietnam. He places Clausewitzian theory and principles of war in context of domestic problems and helps explain the Vietnam War in hopes of preparing the US Army to serve more effectively in future conflicts. Additionally, this book takes a critical look at how the principle of unity of command was used by the United States and North Vietnam. See pages 87–93 and 101–11.

87. Ibid., and Momyer, 66–68.

88. Momyer, 71.

89. Ibid.

90. Ibid.

91. Gen Paul D. Harkins, USA, COMUSMACV, argued the point.

92. Adm Harry D. Felt, USN, CINCPAC, expressed this view. Momyer, 68–78.

93. Ibid., 73.

94. Ibid., 74.

95. Ibid., 76.

96. Adm U. S. Grant Sharp replaced Admiral Felt on 1 July 1964 as CINCPAC.

97. Momyer, 77.

98. MACV Directive 95-4, 6 May 1965. MACV acted at the time of Khe Sanh to put Marine air in Vietnam under the air component commander. On 22 January 1968, the air component commander was given authority to coordinate the Khe Sanh support effort. The Marine commander (General Cushman) resisted Marine air being placed under the control of the air component commander. On 8 March General Westmoreland formally designated his air component commander, General Momyer, the single manager for tactical combat aviation in all South Vietnam. Marine air thus came under the air component commander's direction. It was the battle of Khe Sanh that created the climate for the discussion that ensued in Washington as the Marine Corps brought the issue to the JCS. See Barnard C. Nalty, *Air Power and the Fight for Khe Sanh* (Washington, D.C.: Office of Air Force History, 1973), 72–81.

99. "The Single Manager Problem: The Creation of an Operational Control System for US Tactical Air in I Corps of South Vietnam During 1968" (Washington, D.C.: JCS Historical Division, July 1976), 1–25. (Previously classified. Declassified by SM-197-81, 20 March 1981.)

100. Ibid., and Momyer, 82. Maj Gen Norman J. Anderson, USMC, Retired, provides a different view in his review essay of General Momyer's book. The review essay titled "Short Shrift for Marine Air" appeared in the May 1981 issue of *Marine Corps Gazette*, pages 86–88. General Anderson states: "It was my contention then as Commanding General, 1st Marine Air Wing, and it remains my conviction today that the root reason for 'single management' was years of Air Force neglect of Army requirements, neglect which could only be overcome by putting Marine Corps resources to work for the Army as a stop gap," page 87. Commenting upon the single manager for air concept in MACV and air component commander (i.e., the Commander of the Seventh Air Force), he states:

> Others looked at the Seventh Air Force performance quite differently. To them, it simply revived and reaffirmed the conviction that when, in 1947, the United States set up an independent Air Force, it went a step too far by including tactical aviation in the newly established department. By thus separating tactical aviation in doctrine and objectives from the ground forces it is charged with supporting, our country committed a ghastly mistake. As evidenced in Korea and Vietnam, the Army relinquished capabilities which were to be regained only after long and bitter machinations in the war theater, whereas in both instances, the Marine Corps functioned as a team from the outset (page 88).

101. Gen William C. Westmoreland, USA, COMUSMACV, raised the issue—supported by Gen William W. Momyer, USAF, Air Deputy MACV—with the JCS in 1968.

102. "The Single Manager Problem." See also Gen William C. Westmoreland, *A Soldier Reports* (New York: Doubleday & Co., Inc., 1967), chap. 18, "The Battle for Khe Sanh," 335. The US Marine Corps does not agree with the conclusion reached by the JCS historical paper. They believe that the single manager for air used in Vietnam did not work. Momyer, Westmoreland, the US Air Force, and the JCS Historical Division paper conclude that the single manager for air used in Vietnam after 1967 did, in fact, work.

103. Westmoreland, 76, 261–62, and 411.

104. *Air Force Policy Letter for Commanders: Supplement* (Washington, D.C.: Office of the Secretary of the Air Force, Government Printing Office, August 1981), 7. The US unified command—Central Command—evolved out of the Rapid Deployment Joint Task Force.

105. Gen David C. Jones, USAF, Retired, former chairman of the Joint Chiefs of Staff, expressed these same thoughts during an address to the class of 1982, Air War College, Maxwell AFB, Ala., 29 January 1982. In brief, his remarks were:

> History has shown that span of control becomes a limiting factor in designing an effective command structure. For example, when General Marshall was Chief of the Army Staff, he reorganized his staff because too many people—some 61—reported directly to him. His span of control was too great. Today, we seem to have slipped back to Marshall's days, our span of control is too great. As applied to the recent discussions of unified commands, we tend to overly complicate our command structures with an excessive span of control. We need to ensure his command structure is a true joint command, with representation from each service, with clear and direct lines of communications.

(Used with permission of General Jones.) See also Joint Pub 0-2, 3-4. General Jones, in an interview at the Pentagon on 17 February 1982, and reported in *The Montgomery Advertiser*, 18 February 1982, 49, in an article titled "General Seeks Changes in Joint Chiefs System," stated that "changes need to be made in the joint system." The aim of his proposed changes was to "improve planning . . . in military readiness matters. The current system . . . puts emphasis on budget matters and on . . . peacetime management of the services. Changes in strategy tend to threaten traditional service roles or a redistribution of money."

106. Interview with Maj Gen Carl D. Peterson, USAF, Retired, former air deputy, Allied Forces Northern Europe (AFNORTH), NATO, held on 6 February 1982, in Panama City, Florida. The commander in chief, United States Air Forces in Europe/commander, Allied Air Forces Central Europe, told the USMC that when they arrived in Central Europe, command and control of USMC aviation forces would be in consonance with current NATO doctrine and procedures. Disagreeing with this philosophy and NATO's doctrine for employing air power, the Marines looked to AFNORTH as the most fruitful ground to perform their NATO mission in consonance with their own doctrine. The AFNORTH air forces—commanded by Norwegians, Danes, and Germans—were opposed to the USMC doctrine. The fact that a force was to be dedicated to the area and pre-position equipment in central Norway to back up General Peterson's commitment, is perhaps a major factor in which these political decisions overrode military concepts, doctrine, and command and control procedures.

107. John L. Romjue, "AirLand Battle: The Historical Background," *Military Review* 60, no. 3 (March 1986): 52–55.

108. "Army Rewrites Airland Battle Doctrine To Reflect Geopolitical Changes," *Inside the Army*, 19 February 1990, 7. See also "Trends and Implications for the US Army's Future Airland Battle," Training and Doctrine Command, working draft, *Airland Battle for a Strategic Force*, 18 January 1991 (CMD-GP-27-1).

109. Col John J. Kohout III, USAF, Retired, contributed to this section of the book. I appreciate his insights into the "future."

110. Phillip A. Crowl, *The Strategist's Short Catechism: Six Questions without Answers*, The Harmon Memorial Lectures in Military History, no. 20 (Colorado Springs, Colo.: US Air Force Academy, 1978), 1, stated this same thought when he said: "History is simply recorded memory. People without memory are mentally sick. So, too, are nations or societies or institutions that reject or deny the relevance of the collective past."

111. See Cardwell for discussion. See also Col Dennis M. Drew, USAF, "Two Decades in the Air Power Wilderness: Do We Know Where We Are?" *Air University Review* 37, no. 6 (September–October 1986): 2–13, for discussion on the history of air power.

Chapter 2

Airland Doctrine

A moment's insight is sometimes worth a life's experience.

—Holmes

"Sound military doctrine is essential to the successful implementation of US strategic concepts. Joint doctrine ties together the capabilities of the different military services, guiding both the employment and development of forces."[1] Joint doctrine is influenced by service perspectives and doctrine. Service doctrine forms the basis for joint doctrine because joint doctrine requires the concurrence of the services. Since war fighting will be done jointly, the services should subordinate service doctrine to joint doctrine for airland combat—or at least make service doctrine agree with joint doctrine.

The services are moving toward a more joint flavor to war-fighting doctrine. Joint Pub 0-2 and the Goldwater-Nichols Reorganization Act of 1986 assigned responsibility for the development of joint doctrine to the Joint Staff.

Before reviewing joint doctrine for airland combat, I will briefly overview service doctrines to lay the foundation for the discussion on joint doctrine.

US Army AirLand Battle Doctrine

The US Army articulates its doctrine for airland combat in Field Manual (FM) 100-5, *Operations*. The current edition details the US Army's perspective on airland doctrine. It stresses mobility, flexibility,

and staying power so that the Army will be prepared to win the first battle of any war.[2]

From the US Army's point of view, warfare is a joint effort combining the forces of the US military establishment to accomplish the objective. "In the contemporary world, it is also necessary that Army, Navy, Marine Corps, and Air Force requirements be coordinated so as to exploit unique characteristics of each service, and so as to avoid unnecessary duplication among the Services."[3] This captures the Army's capstone doctrinal statement on force employment. The key element of Army doctrine is a land force prepared to fight worldwide against a varied threat while integrated, under a single commander, into an effective team of land, naval, and air forces.

The Army seldom fights alone since the military operations of US forces normally will involve the employment of more than one service. The Army subscribes to the provisions of joint doctrine publications as they relate to force deployment, while stating that tactical employment is written by each service, and is found in service doctrine.[4]

To support the objectives of theater commanders and to prosecute the land battle, the Army employs the AirLand Battle doctrine of which deep battle is a part. From the Army's perspective, the corps commander plays the vital role of force executor. It is from this corps perspective that the US Army's AirLand Battle doctrine was created some 10 years ago. According to the Historical Research Department of the US Army's Training and Doctrine Command, the "story of how the US Army came to formulate the doctrine of AirLand Battle [and thus the doctrine found today in FM 100-5] is a significant chapter in Army history."[5]

The AirLand Battle doctrine replaced the active defense doctrine with its emphasis upon firepower and force ratios. The current Army doctrine is an initiative-oriented land doctrine that restored, in the US Army's view, the maneuver-firepower balance and signaled a return to the fundamental principles of attaining victory.

According to current doctrine, the Army views the battlefield as one battle having three distinct areas—rear, close-in, and deep. However, the three areas of the battlefield are inextricably linked. As there is only

one battle, the corps commander must have the means to control and influence the rear, close-in, and deep areas of the battle. Service forces must be synchronized (integration of tactical assets) into the land commander's maneuver scheme.

The Army is currently reviewing the AirLand Battle doctrine with a view toward a force focused upon projection and deployability. The strategy is based upon a smaller but more versatile ground force. This new strategy is entitled "AirLand Battle—Future," and like previous updates is grounded in the corps concept of battle management.

US Air Force Doctrine for Tactical Air Operations

The US Air Force articulates its doctrine for air combat in Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, and the supporting operational or tactical doctrine in the Air Force and major air commands' 2-series tactical manuals.[6]

AFM 1-1 states that doctrine for joint operations describes service responsibilities for force employment by two or more services and stresses that air forces must be effective in supporting the other services in their roles and missions.[7] Air Force doctrine further states that air power, to be effective, must be coordinated with other forces because Air Force missions during theater air operations are not isolated from land operations.[8]

Basic Air Force doctrine does not specifically address airland combat, but indirectly discusses the Air Force missions which contribute to theater warfare and hence land operations.

> Air Force missions describe broad military objectives attained by employing aerospace forces. . . . The fundamental role of the Air Force is to prepare aerospace forces to accomplish these missions: strategic aerospace offense; defense; counter air; air interdiction; close air support; special operations; airlift; aerospace surveillance and reconnaissance; and aerospace maritime operations.[9]

Additionally, the Air Force performs specialized tasks which enhance the execution of Air Force missions and "support(s) the accomplishment

of other Services' missions as well."[10] These include aerial refueling, electronic combat, intelligence, aerospace rescue and recovery, psychological operations, and weather services.[11]

According to Air Force doctrine, mutual support of the other services is an important function of aerospace forces. To support the land campaign, the Air Force provides the theater commander close air support for land forces, tactical air reconnaissance and surveillance, air defense, offensive counterair, air interdiction (to include battlefield air interdiction), and special air operations.

Naval Doctrine in Support of Land Warfare

Although the naval services do not have, like the US Army and US Air Force, basic or capstone doctrine, they do have doctrinal pronouncements that illuminate naval views for joint warfare. The US Navy and US Marine Corps doctrines for employment of naval forces in support of airland combat are articulated in Naval Warfare publications and Commandant of the Marine Corps white letters. These are contained in such publications as Allied Tactical Publication (ATP) 8, *Amphibious Warfare Doctrine*, Naval Warfare publications, and Marine Corps manuals.

US Navy aviation assets, if required to support airland combat, are flown "in support of" these operations. Operational control is not passed to the land or air component commander; the naval component commander retains operational control. This use of naval aviation in support of the Army in AirLand Battle, according to naval doctrine, is temporary in nature. The rationale given by our naval forces is that naval aviation is for fleet defense and is required primarily to support naval and amphibious operations.[12]

The US Marine Corps states that if Marine forces are employed in airland combat, they will be employed as an integrated unit called the Marine Air/Ground Task Force. Marine Corps doctrine emphasizes the close integration of Marine air and ground assets that function as a separate component of a naval task force, joint task force, or combined

force.[13] Marine Corps doctrine provides that the employment of the MAGTF in nonamphibious—airland—combat will be as an integrated entity and that the MAGTF is prepared to operate alone in any battlefield scenario.[14]

Joint Doctrine for Unified Operations*

Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, establishes the principles and doctrine that govern the activities of the armed forces when two or more of the services are acting together.[15] This publication also sets forth "principles and doctrines to govern the joint activities and performance of the armed forces of the United States."[16] It provides guidance governing the exercise of command by unified, specified, and joint force commanders. Joint Pub 0-2 provides military guidance for use by the military departments and armed forces in the preparation of their detailed plans. The integration of forces, provided by the services for assignment to combatant commands, is known as the unified command structure. The underlying principle of unified operation is, of course, the principle of unity of effort.[17] Unity of effort is defined as an efficient team of land, naval, and air forces which is based on the principle that "effective use of the military power of the nation requires that the efforts of the separate Military Services be closely integrated."[18] This prevents unnecessary duplication or overlapping of functions among the services. This integration enables the armed forces to achieve a high degree of cooperation by coordinating the operations of the team to promote efficiency and economy, and to prevent gaps in

* Portions of the material contained in this section were originally published as Doctrine Information Publication 1, *So You Want to Know About JCS Pub 2*, prepared by Lt Col Thomas A. Cardwell III, USAF, and distributed by the Assistant Deputy Directorate for Strategy, Doctrine, and Long-Range Planning, Headquarters USAF, Washington, D.C., 25 August 1978. The more important parts of the Doctrine Information Publication have been presented here to underscore the salient points on how to organize for joint and combined warfare. This section was updated in 1987 to track to the December 1986 version of JCS Pub 2. Pub 2 was renumbered to Joint Pub 0-2 by the Organization of the Joint Chiefs of Staff in 1988. Additionally, it was again updated in 1992 to account for changes in joint doctrine and revisions to Joint Pub 0-2.

responsibility—that is, to fight more effectively.[19] Joint Pub 0-2 assigns responsibility to the services for the development of joint doctrine. For example, the US Air Force is charged with the responsibility for developing, in coordination with the other services, joint doctrine for air defense of land areas, including the United States.[20]

Joint Pub 0-2 is based upon the provisions of law as outlined in the National Security Act of 1947, as amended; Titles 10 and 32 of the *US Code*, as amended; DOD Directive 5100.1, sometimes called the "*Functions Paper*"; DOD Reorganization Act of 1958; and the Goldwater-Nichols Reorganization Act of 1986. In enacting these laws, Congress intended

> to provide a comprehensive program for the future security of the United States; to provide for the establishment of integrated policies and procedures for the departments, agencies, and functions of the Government relating to the national security; to provide a Department of Defense including the three Military Departments of the Army, the Navy (including naval aviation and the United States Marine Corps), and the Air Force under the direction, authority, and control of the Secretary of Defense; to provide that each military department shall be separately organized under its own Secretary and shall function under the direction, authority, and control of the Secretary of Defense; to provide for their unified direction under civilian control of the Secretary of Defense but not to merge these departments or services; to provide for the establishment of unified or specified combatant commands, and a clear and direct line of command to such commands; to eliminate unnecessary duplication in the Department of Defense, and particularly in the field of research and engineering, by vesting its overall direction and control in the Secretary of Defense; to provide more effective, efficient, and economical administration in the Department of Defense; to provide for the unified strategic direction of the combatant forces; for their operation under unified command, and for their integration into an efficient team of land, naval, and air forces, but not to establish a single Chief of Staff over the armed forces nor an overall armed forces general staff.[21]

Additionally, the National Security Act of 1947 was amended in 1986 by the Goldwater-Nichols Act. This act strengthens the role of the Joint Chiefs of Staff by reorganizing the Department of Defense. The Goldwater-Nichols Department of Defense Reorganization Act of 1986 makes the following statement of policy:

In enacting this Act, it is the intent of Congress, consistent with the congressional declaration of policy in section 2 of the National Security Act of 1947 (50 U.S.C. 401)

1. to reorganize the Department of Defense and strengthen civilian authority in the Department;
2. to improve the military advice provided to the President, the National Security Council, and the Secretary of Defense;
3. to place clear responsibility on the commanders of the unified and specified combatant commands for the accomplishment of missions assigned to those commands;
4. to ensure that the authority of the commanders of the unified and specified combatant commands is fully commensurate with the responsibility of those commanders for the accomplishment of missions assigned to their commands;
5. to increase attention to the formulation of strategy and to contingency planning;
6. to provide for more efficient use of defense resources;
7. to improve joint officer management policies; and
8. otherwise to enhance the effectiveness of military operations and improve the management and administration of the Department of Defense.[22]

The military departments and services provide forces for assignment to unified and specified commands (service line of authority). Commanders of unified and specified commands exercise operational command over these assigned forces. The service component commanders are responsible to the unified or specified commander, in the operational chain of command, for the composition of subordinate forces, assignment of tasks, designation of objectives, and the authoritative direction necessary to accomplish the mission.[23]

The authority to establish unified and specified commands is found in chapter 3 of Joint Pub 0-2. Unified and specified combatant commands are established and designated by the president through the secretary of defense with the advice and assistance of the chairman of the Joint Chiefs of Staff.

Commanders of unified and specified commands are responsible to the president and secretary of defense for the accomplishment of the military mission assigned to them. The chain of command runs from the president to the secretary of defense through the JCS to the commander. This is operational direction or operational command and not service line of authority. For purposes other than operational

direction, the chain of command runs from the president to the secretary of defense to the secretaries of the military departments (Army, Navy, and Air Force), and thence to the service chiefs. The services have responsibility for organizing, training, equipping, and providing forces to fulfill certain specific combatant functions.[24]

The JCS is subject to the authority and direction of the president and secretary of defense, serves as the adviser and military staff in the chain of operational command (with respect to unified and specified commands), and coordinates all communications in matters of joint interest addressed to the commanders of the unified and specified commands.[25] Of interest is the fact that the joint staff "shall not operate or be organized as an overall Armed Forces General Staff and shall have no executive authority."[26] The JCS is composed of the chairman of the JCS, the chiefs of staff of the Army and the Air Force, the chief of naval operations, and the commandant of the Marine Corps.[27]

Common Functions of the Military Departments

Chapter 2 of Joint Pub 0-2 outlines the primary and collateral functions of the services and responsibilities by law of each service. Common functions of the military departments and services include the requirement to

1. prepare forces and establish reserves of supplies and equipment to meet the needs of war;
2. maintain mobile reserve forces for emergencies;
3. provide departmental intelligence for DOD use;
4. prepare and submit budgets and justify before Congress DOD-approved programs. Administer funds provided for maintaining, equipping, and training forces;
5. conduct research and development, develop tactics and techniques, and develop and procure weapons and equipment essential to the fulfillment of assigned functions;
6. garrison, supply, equip, and maintain bases;
7. assist in the training and equipping of military forces of foreign nations;

8. provide such administrative and logistic support to headquarters of unified and specified commands;
9. assist the other services in their assigned functions; and
10. organize, train, and equip forces for assignment to unified and specified commands.[28]

Each of the services has primary and collateral functions. The forces developed and trained to perform the primary functions described in Joint Pub 0-2 are employed to support and supplement the other services' forces in carrying out their primary functions. This assistance occurs whenever it results in increased combat effectiveness and contributes to the accomplishment of the overall military objectives. While the assignment of collateral functions may establish further justification for stated force requirements, collateral functions are not used as the sole basis for establishing additional force requirements.[29]

Army

Listed below are the primary and collateral functions of the Army, Navy, and Air Force as they relate to joint operations. The Department of the Army is responsible for preparing land forces to meet the needs of war. The Army includes land combat and service forces and such aviation and water transport as may be organic to the Army. Selected functions of the Army are to

1. organize, train, and equip forces for the conduct of prompt and sustained combat operations on land—specifically, forces to defeat enemy land forces and to seize, occupy, and defend land areas;
2. organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, including the provision of forces as required for the strategic defense of the United States, in accordance with joint doctrines;
3. organize, equip, and provide Army forces, in coordination with the other military services, for joint amphibious, airborne, and space operations and to provide for the training of such forces, in accordance with joint doctrines. Specifically, the Army:

a. develops, in coordination with the other military services, doctrines, tactics, techniques, and equipment of interest to the Army for amphibious operations and not provided for elsewhere in Joint Pub 0-2;

b. develops, in coordination with the other military services, the doctrines, procedures, and equipment employed by Army and Marine Corps forces in airborne operations. The Army will have primary responsibility for developing those airborne doctrines, procedures, and equipment that are of common interest to the Army and the Marine Corps;

c. develops, in coordination with the other military services, doctrines, procedures, and equipment employed by Army forces in the conduct of space operations;

4. provide equipment, forces, procedures, and doctrine necessary for the effective prosecution of electronic warfare operations and, as directed, support of other forces;

5. develop doctrines and procedures, in coordination with the other military services, for organizing, equipping, training, and employing forces operating on land, except that the development of doctrines and procedures for organizing, equipping, training, and employing Marine Corps units for amphibious operations will be a function of the Marine Corps, coordinating as required with the other military services;

6. organize, train, equip, and provide forces, as directed, to operate land lines of communications.[30]

The collateral functions of the Army are to train forces to interdict enemy sea and air power and communications through operations on or from land.[31] The Army is given other responsibilities, which include space operations and close air support of ground forces. With respect to space operations, the Army has specific responsibility for the following:

1. organizing, training, equipping, and providing Army forces to support space operations;

2. developing, in coordination with the other military services, tactics, techniques, and equipment employed by Army forces for use in space operations;

3. participating with other services in joint space operations, training, and exercises as mutually agreed to by the services concerned or as directed by competent authority; and

4. providing forces for space support operations for the Department of Defense when directed.[32]

With respect to close air support of ground forces, the Army has specific responsibility for providing, in accordance with interservice agreements, communications, personnel, and equipment employed by Army forces.[33]

The Army functions (primary and collateral) are oriented to terrain—to conduct operations on land and to seize and occupy land areas, among others. Key points on Army responsibilities for the conduct of land operations are determining Army force requirements; planning, procuring, organizing, equipping, and training forces; developing doctrines, procedures, tactics, and techniques; providing logistic support; and administering forces for the Army.

Navy and Marine Corps

The Department of the Navy is responsible for preparing Navy and Marine Corps forces to meet the needs of war. The Navy contains naval combat and service forces including organic land and aviation units. Selected functions of the Navy and Marine Corps are to

1. organize, train, equip, and provide Navy and Marine Corps forces for the conduct of prompt and sustained combat incident to operations at sea, including operations of sea-based aircraft and land-based naval air components. Specifically, the Navy and Marine Corps provide forces to seek out and destroy enemy naval forces and to suppress enemy sea commerce, to gain and maintain general naval supremacy, to control vital sea areas and to protect vital sea lines of communication, to establish and maintain local superiority (including air) in an area of naval operations, to seize and defend advanced naval bases, and to conduct such land, air, and space operations as may be essential to the prosecution of a naval campaign.

2. maintain a Marine Corps organized, trained, and equipped to provide Fleet Marine Forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. In addition, the Marine Corps will provide detachments and organizations for service on armed vessels of the Navy, provide security detachments for the protection of naval property at naval stations and bases, and perform such other duties as the president may direct. However, these additional duties must not detract from or interfere with the operations for which the Marine Corps is primarily organized. These functions do not contemplate the creation of a second land army. Further, the Marine Corps will

a. develop, in coordination with the other military services, the doctrines, tactics, techniques, and equipment employed by landing forces in amphibious operations. The Marine Corps will have primary responsibility for the development of landing force doctrines, tactics, techniques, and equipment which are of common interest to the Army and the Marine Corps;

b. train and equip, as required, forces for airborne operations, in coordination with the other military services, and in accordance with joint doctrines;

c. develop, in coordination with the other military services, doctrines, procedures, and equipment of interest to the Marine Corps for airborne operations and not provided for by the Army, which has primary responsibility for the development of airborne doctrines, procedures, and techniques, which are of common interest to the Army and Marine Corps;

3. organize and equip, in coordination with the other military services, to provide naval forces, including naval close air support and space forces, for the conduct of joint amphibious operations, and to be responsible for the amphibious training of all forces assigned to joint amphibious operations in accordance with joint doctrines;

4. develop, in coordination with the other services, the doctrines, procedures, and equipment of naval forces for amphibious operations and the doctrines and procedures for joint amphibious operations;

5. organize, train, equip, and provide forces for strategic nuclear warfare to support strategic deterrence;

6. furnish adequate, timely, reliable intelligence for the Coast Guard;

7. organize, train, equip, and provide forces for reconnaissance, antisubmarine warfare, protection of shipping, aerial refueling and mine laying, including the air and space aspects thereof, and controlled minefield operations;

8. provide the afloat forces for strategic airlift;

9. organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, including the provision of forces as required for the strategic defense of the United States, in accordance with joint doctrines;

10. provide equipment, forces, procedures, and doctrine necessary for the effective prosecution of electronic warfare operations and, as directed, support of other forces;

11. develop, in accordance with the other services, doctrines, procedures, and equipment employed by Navy and Marine Corps forces in the conduct of space operations;

12. provide sea-based launch and space support for the Department of Defense when directed;

13. coordinate with the Department of Transportation for the peacetime maintenance of the Coast Guard. During war, the Coast Guard will function as a military service. The specific wartime functions of the Coast Guard are as follows:

a. to provide an integrated port security and coastal defense force, in coordination with the other military services, for the United States;

b. to provide specialized Coast Guard units, including designated ships and aircraft, for overseas deployment required by naval component commanders; and

c. to organize and equip, in coordination with the other military services, and provide forces for maritime search and rescue, ice breaking, and servicing of maritime aids to navigation.[34]

The collateral functions of the Navy and Marine Corps are to train forces to interdict enemy land and air power through operations at sea, conduct close air and naval support for land operations, furnish aerial cartographic photography, and prepare to participate in the overall air and space effort.[35] Additionally, the Navy and Marine Corps are given other responsibilities. With respect to space operations, the Navy and Marine Corps have specific responsibility for the following:

1. organizing, training, equipping, and providing Navy and Marine Corps forces to support space operations;
2. developing, in coordination with the other military services, tactics, techniques, and equipment employed by Navy and Marine Corps forces for use in space operations; and
3. participating with the other services in joint space operations, training, and exercises as mutually agreed to by the services concerned or as directed by competent authority.[36]

Other responsibilities of the Navy and Marine Corps include

1. providing and operating sea transport for the armed forces other than that which is organic to the individual services; and
2. developing in coordination with the other services, doctrine and procedures for close air support for naval forces and for joint forces in amphibious operations.[37]

Naval responsibilities for the support of naval operations include: determining Navy and Marine Corps force requirements; planning, procuring, organizing, and equipping; developing doctrine, procedures, tactics, and techniques; providing logistic support; and administering forces for the Navy and Marine Corps. Naval functions, including naval air, are oriented toward the sea.

Air Force

The Department of the Air Force is responsible for preparing air forces necessary to meet the needs of war. The Air Force includes aviation forces, both combat and service. The primary functions of the Air Force are to

1. organize, train, equip, and provide forces for the conduct of prompt and sustained combat operations in the air—specifically, forces to defend the United States against air attack in accordance with doctrines established by the Joint Chiefs of Staff—gain and maintain general air supremacy, defeat enemy air forces, conduct space operations, control vital air areas, and establish local air superiority except as otherwise assigned;
2. organize, train, equip, and provide forces for appropriate air and missile defense and space control operations, including the provision of forces as required for the strategic defense of the United States, in accordance with joint doctrines;
3. organize, equip, and provide forces for joint amphibious, space, and airborne operations, in coordination with the other military services, and to provide for their training in accordance with joint doctrines;
4. organize, train, equip, and provide forces for close air support and air logistic support to the Army and other forces, as directed, including airlift, air support, resupply of airborne operations, aerial photography, tactical air reconnaissance, and air interdiction of enemy land forces and communications;
5. organize, train, equip, and provide forces for air transport for the armed forces, except as otherwise assigned;
6. develop, in coordination with the other services, doctrines, procedures, and equipment for air defense from land areas, including the United States;
7. organize, train, equip, and provide forces to furnish aerial imagery for use by the Army and other agencies as directed, including aerial imagery for cartographic purposes;

8. develop, in coordination with the other services, tactics, techniques, and equipment of interest to the Air Force for amphibious operations and not provided for elsewhere;

9. develop, in coordination with the other services, doctrines, procedures, and equipment employed by Air Force forces in airborne operations;

10. provide launch and space support for the Department of Defense, except as otherwise assigned;

11. develop, in coordination with the other services, doctrines, procedures, and equipment employed by Air Force forces in the conduct of space operations;

12. organize, train, equip, and provide land-based tanker forces for the in-flight refueling support of strategic operations and deployments of aircraft of the armed forces and Air Force tactical operations, except as otherwise assigned;

13. organize, train, equip, and provide forces, as directed, to operate air lines of communications; and

14. provide equipment, forces, procedures, and doctrine necessary for the effective prosecution of electronic warfare operations and, as directed, support of other forces.[38]

The collateral functions of the Air Force are to train forces to interdict enemy sea power through air operations, conduct antisubmarine warfare and protect shipping, and conduct aerial mine-laying operations.[39] Key points on Air Force responsibilities for the conduct of air operations include: determining force requirements; planning, procuring, organizing, and equipping; developing doctrine, procedures, tactics, and techniques; providing logistic support; and administering forces for the Air Force.

The Air Force is given additional responsibilities. With respect to space operations, the Air Force has specific responsibility for the following:

1. organizing, training, equipping, and providing forces to support space operations;

2. developing, in coordination with the other military services, tactics, techniques, and equipment employed for use in space operations; and

3. participating with the other services in joint space operations, training, and exercises as mutually agreed to by the services concerned, or as directed by competent authority.[40]

Other responsibilities of the Air Force include

1. with respect to amphibious operations, the Air Force will develop, in coordination with the other services, tactics, techniques, and equipment of interest to the Air Force and not provided for by the Navy and Marine Corps;

2. with respect to airborne operations, the Air Force has specific responsibility to provide forces for the air movement of troops, supplies, and equipment in joint airborne operations, including parachute and aircraft landings; and

3. with respect to close air support of ground forces, the Air Force has specific responsibility for developing, in coordination with the other services, doctrines and procedures, except as provided for in Navy responsibilities for amphibious operations and in responsibilities for the Marine Corps.[41]

Unified Command Structure*

Perhaps the most important part of Joint Pub 0-2 is chapter 3, which outlines and describes the unified command structure. This chapter provides guidance for commanders who employ the forces that are organized, equipped, trained, and provided by the military departments. Chapter 3 discusses command, organization, operations, intelligence, logistics, and administration of service-provided forces in a unified and specified command structure. *Command* is defined in these terms—direction, coordination, and control; an order; a unit under the command of one individual.[42] Command given an individual in the unified structure is called operational command. Specific guidance is

* See appendix, "Unified Command Plan," for more detailed information.

provided on the exercise of operational command, where the commander of the unified command is authorized to

1. plan for, deploy, direct, control, and coordinate the action of assigned forces;
2. conduct joint exercises;
3. exercise direct authority for logistics within the command; (Note: The military departments and services continue to have responsibility under the secretary of defense for logistic and administrative support of component commands.)
4. exercise direct authority over all elements of the command;
5. establish plans, policy, and overall intelligence activities of the command;
6. participate in the development and acquisition of the command and control system and direct its operation; and
7. review respective military department budgets bearing on the command to verify they are in agreement with plans and programs. Operational command is exercised through the service component commanders—land, naval, and air components.[43]

A unified command is a command established by the president with a broad continuing mission under a single commander. It is composed of assigned components of two or more services (e.g., United States European Command is a US unified command with United States Air Force Europe as the air component).* A commander of a unified command may direct the attachment of elements of any service components to a subordinate unified command, joint task force, or uniservice force. A specified command is a command established by the president which has a broad continuing mission and is composed normally of forces from one service.

There is only one specified command: US Army Forces Command (FORSCOM). A joint task force is a force composed of assigned or attached elements of the USA, USAF, USMC, and USN, or two or more

* There are currently nine unified commands: US European Command, US Space Command, US Central Command, US Atlantic Command, US Transportation Command, US Southern Command, US Pacific Command, US Special Operations Command, and US Strategic Command.

of these services, which is constituted by the secretary of defense or by a unified or specified commander. A joint task force, unlike a subordinate unified command, is not a permanent command arrangement.

Joint Pub 0-2, paragraph 3-15, defines the methods of exercising command by a unified commander. One method is the use of functional component commanders. Others are: through a service component commander establishing a single service (uniservice) force that reports directly to the commander of the unified command (may be established only under exceptional circumstances and normally will be assigned to the service component commander), establishing a joint task force, and attaching elements of one force to another through a subordinate unified command (when authorized by the JCS) and directly to a specific operational force. At times the unified command issues orders directly to specific operational forces. Due to the mission and urgency of the situation, this special force must remain immediately responsive to the commander. The commander must identify these specific forces, and the chairman of the Joint Chiefs of Staff must approve them.

In December of 1988 the Joint Chiefs of Staff published an initial draft of Joint Pub 3-0, entitled "Doctrine for Joint Operations."[44*] The purpose of this draft regulation is to set forth "doctrine principles and fundamentals to govern the unified and joint activities of the armed forces of the United States."[45] This publication states that the doctrine is authoritative but not directive, and that commanders shall exercise their best judgment in applying it. Joint Pub 3-0 was developed to provide a basis for employment of joint forces and provides the guidelines for the planning and execution of theater strategy, campaigns, and joint operations.[46] Additionally, this publication states that "single service, joint, combined, and other U.S. Government or allied agency operations are integrated by the CINC, [commander in chief—the theater commander/joint force commander], resulting in unity of effort within the theater."[47]

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* Joint Pub 3-0 is now entitled "Doctrine for Unified and Joint Operations" and is a test publication dated 1 January 1990.

According to Joint Pub 3-0, the theater commander "organizes his theater, in peace, to posture forces and resources for war."[48] In organizing the theater command for peace and war, the commander must consider mission, task and objectives, the nature and scope of US military operations, the capabilities of and the doctrinal commonality among allied and US forces, and logistical considerations. Additionally, the theater commander exercises operational command through subordinate commanders. The commander may, according to Joint Pub 3-0, organize command of forces in one of seven ways. These are: service component commanders; functional component commanders; subordinate unified commanders; joint task force commanders; single-service force commanders; a specific operational force commander; or by attachment (i.e., by attaching elements of one force to another force).[49] This publication also states that when conducting unified operations, the theater commander conducts joint operations (when forces of two or more services are involved), service operations (operations conducted by service forces involved under the same service), or supporting operations (operations conducted by forces assigned to one CINC but placed in support of another CINC).[50]

In a nutshell, this publication says that the theater commander shall organize forces to accomplish this assigned mission as he prepares for and executes his deterrent and war-fighting responsibilities. Although JCS publications do not specifically address airland combat, they do provide broad guidance for the development of joint doctrine, procedures, and tactics when two or more services are operating together such as in airland combat for theater warfare.

Analysis of Service and Joint Doctrine

To fully understand the services' views on theater warfare and a command structure for airland combat, one must compare not only the written doctrine but also how the services use that doctrine in arriving at a structure for joint doctrine for airland combat. This section compares and analyzes doctrinal statements to provide an insight into

the services' actual employment of their forces in a theater of operation. By analyzing the services' doctrine, the following general statements can be made concerning airland and sea combat.

The Navy and Air Force view war fighting from a theater perspective. The Army sees the battle from the corps' perspective where the corps is the highest tactical fighting unit, although the Army fully supports the concept of an echelon above the corps (i.e., an element higher than the corps—for example, a field army). The Marines view war fighting from a single-mission, uniservice perspective; that is, from the perspective of an integrated, combined arms force—the Marine Air/Ground Task Force—which is task organized to perform a specific mission. These views drive the services to differing opinions on how to organize forces for airland combat. The services' written doctrines support these views.

Naval forces are structured to conduct sea control and power projection. Air Force forces are structured to support surface (land or sea/water environment) operations and to carry out the air campaign. Army forces are structured to support the concept of the corps as the highest tactical combat command in theater warfare. Marine Corps forces are structured to support the concept of an integrated Marine air-ground team in support of theater objectives.

Each of the services formally acknowledges the principle of unity of effort but not always unity of command. However, each service applies this principle of unity of effort in varying ways. The Army, Navy, and Air Force agree that one single commander—the theater or joint force commander—should exercise operational control of theater-assigned assets through the land, naval, and air component commanders. The Marine Corps believes that Marine combat forces should come directly under the joint or theater commander and be employed by a Marine component commander. The Army and Air Force believe in the functional component—air, land, and naval; the Navy and Marine Corps believe in the service component—US Navy component, US Marine Corps component, US Air Force component, and US Army component.

All four services believe that the theater or joint task force commander should organize forces the best way he sees fit. In general, the Army and Air Force believe there are three generic components composed of land forces, naval forces, and air forces. The Navy and Marines believe that for sustained operations ashore by US Marine forces, a fourth component should be added. If the theater or joint force commander organizes forces with only three components, then the Navy and Marine Corps would support this arrangement as long as Marine aviation remained integral to the MAGTF. They do not support placing Marine Corps ground combat forces under the land component and aviation forces under the air component—that is, splitting the MAGTF.

The US Army has employed its forces under the unified command structure since the beginning of the concept in the early 1940s. Army forces are normally divided into an army group or field army and then further divided into corps. Past decisions by the Army Staff and doctrinal statements by the US Army Training and Doctrine Command have tended to imply a drift from this principle of unified command. For example, the US Army's AirLand Battle doctrine portrays the battle from a corps-and-below perspective.[51] Additionally, the 1973 Abrams agreement changed Army doctrine by placing emphasis on the corps, thus in effect eliminating the echelon above corps (that is the field or group army).[52] The Army recognized that an echelon above corps was needed and is working to provide the interface for joint coordination of organic Army assets and Air Force tactical air assets.[53] Ongoing discussions by the Army Staff and Air Staff, and the dialogue between the Army's Training and Doctrine Command and the Air Force's Tactical Air Command (TAC), have centered on working out procedures to effect the needed coordination between Army and Air Force units in a theater of operations.

In 1977 discussions began over how to integrate USAF and USA tactical assets. The central theme was integration of chemical, conventional, and nuclear weapons. Several meetings were held at the Pentagon in Washington, D.C., and Fort Leavenworth, Kansas, to focus on this area. These meetings led to discussions on how to fully utilize tactical air on the battlefield. At about the same time, discussions were

ongoing in NATO at the Land Forces Tactical Doctrine Working Party and the Tactical Air Working Party on employment of air and land assets on the modern battlefield. By 1978, a concept had been developed by TRADOC and was circulated in NATO and to the Air and Army staffs. This concept generated considerable discussion. The concept was perceived by NATO air forces, to include the USAF, as a move by armies to control tactical air assets. The heart of the problem was a feeling that the concept was really an attempt to splinter air power and to go back to the days of "corps air forces" much like those found in North Africa in 1942 and in France in 1944.

After much discussion the staffs at TRADOC and TAC reached an agreement on control of the airland battle. The headquarters staffs of the Army and Air Force coordinated the agreement which was signed by the services' deputy chiefs of staff for operations in 1981. This agreement defined the apportionment and allocation of offensive air support and was an important step in the development process of true joint—or at least US Army and US Air Force joint—war fighting. This was an important step because for the first time the Army and the Air Force had a common definition for the employment (apportionment and allocation) of offensive air support. Additional discussions ensued from 1981 to 1983, and these discussions led to a memorandum of understanding (MOU) on Joint USA/USAF Efforts for Enhancement of Joint Employment of the AirLand Battle doctrine signed on 21 April 1983. On 22 May 1984 the two service chiefs signed a memorandum of agreement (MOA) on US Army–US Air Force development process. The MOA addressed broad war-fighting issues and identified 31 initiatives which have the potential to enhance our war-fighting posture and have an impact on the way future combat operations are conducted.

Gen Charles A. Gabriel, USAF, Retired, former Air Force chief of staff, stated that

> last May [1984], Army Chief of Staff Gen John A. Wickham, Jr., and I emphasized our commitment to increased cooperation by requiring a Memorandum of Agreement (MOA) on Joint Force Development. The MOA identified thirty-one initiatives aimed at improving joint cooperation and providing the most effective joint airland capability. . . . There has been significant improvements in many areas. . . . Aside from hardware decisions,

> the most important aspect of the process has been a significant improvement in our joint approach to major force-structure issues, and that bodes very well for the future. General Wickham and I are committed to the fullest implementation of all the initiatives, and progress has been excellent. We're also working more closely with the Navy. . . . Interservice cooperation increases our warfighting capability, meets the needs of our commanders, and produces the most cost effective force possible.[54]

Like the Army, the US Navy employs its forces under the unified command principle. The Navy believes in the unified command structure to fight a theater war; however, if naval forces are assigned to unified commands not associated with naval operations (e.g., support of the land campaign), then these naval forces operate "in support of" the airland operation, where operational control remains with the fleet commander.[55] This means that naval forces supporting the theater or joint task force commander may not be diverted, withdrawn, or used in other tasks without the express approval of the fleet commander. Under the unified component command system, this presents no problem for the theater command organization as the fleet commander and the naval component commander are one and the same.

In the case of naval aviation supporting a land campaign, a problem exists. In effect, there would be two air component commanders operating in the same area. The argument presented by the Navy is that naval air assets are limited, must be available as required to maintain sea control, and must be responsive to the needs of the fleet, for defense of the fleet, and in maintaining the sea lines of communication.[56] The Navy points out that naval air assets supporting the land commander will be provided to the theater or joint task force commander as determined by the fleet commander.[57] Discussions between the Navy and Air Force over this issue resulted in an agreement that naval air assets provided for support of land operations will be in an "in support of" role.[58] Senior officers of the Air Force and Army argued for naval air assets to be placed under the air component commander. The rationale is that having two air component commanders operating in the same area creates coordination problems, inhibits effective command and control of peacetime exercises, and could maximize the difficulty of transitioning from peace to war.

Historically, the Marine Corps has operated under the operational control of the naval component commander of a unified command when conducting amphibious operations. In recent history Marine forces have been employed more in a sustained-operations-ashore method of employment than in amphibious operations. When employed in sustained operations ashore, the question of command and control is raised. The Marine Corps argues that when operating in support of the land campaign—sustained operations ashore—these forces should be placed under the theater or joint force commander and operate as a uniservice command.[59]

Joint Chiefs of Staff guidance on employment of USMC tactical air during sustained operations ashore is as follows: (1) under most circumstances, the theater or joint commander will organize his command to retain the unique capabilities of Marine forces to pose to an enemy the threat of amphibious operations; (2) under sustained combat operations ashore, the theater commander should place the MAGTF forces under the land component commander—this also applies to placing Army forces subordinate to a land component commanded by a Marine; (3) normally, Marine air assets would remain organic to the MAGTF; however, under certain circumstances these air assets could be placed under an air component commander as directed by the theater commander; and (4) field commanders should organize their forces for wartime operations and peacetime exercises in ways that minimize the difficulty of transitioning from peace to war.[60]

The Marine Corps argued for the integrity of the MAGTF. Past discussions by the JCS on these issues led to the services' agreement that the MAGTF normally would not be split—that is, Marine aviation would remain integral to Marine land combat forces, but the final command organization would rest with the theater or joint force commander.[61] With that guidance the Omnibus Agreement was a compromise between the USMC and USAF position. The first part of the agreement is essentially the Marine Corps position, and the second part is essentially the Air Force position, less the Air Force position of all air assets coming under control of the air component commander.[62] To clarify the Omnibus Agreement, guidance was issued by the JCS

and the services in 1981. It is interesting to note that the Army and Air Force interpret this agreement and the guidance along the lines of tacit approval for the placing of all tactical air (TACAIR) under the air component commander—not the Air Force, but the air component. The Marine Corps interprets it as tacit approval to function either as a uniservice force, fourth component, or as a MAGTF with no splitting of land and aviation assets. The guidance seems quite clear; it is up to the theater commander to organize his forces as he sees fit, and it is important for field commanders to organize their forces in peace as they will fight in war. The USMC, USA, USAF, and USN have agreed to the provisions of both the agreement and the guidance. The still unresolved question is "how should we organize our peacetime forces for war fighting?" This we have not totally come to grips with. Until we do, the debate will continue.

Since its inception in 1947, the US Air Force has supported the unified command principle. The Air Force also supports the three-component command structure. For theater operations, most air assets should come under the operational control of the air component commander.* With the exception of strategic airlift, all bomber, tactical fighter-bomber, fighter, and support aircraft, including theater airlift, come under the operational control of the theater air component commander. For national security reasons, however, the US has separated strategic airlift from tactical air power in a theater of operations. This does not create two air components in the same sense as in the case of naval aviation operating in an "in support of" role or Marine air operating as part of a MAGTF. The Air Force recognized that all air power should come under the air component commander, and in 1992 combined "tactical" and "strategic" air in one command. Before 1992 when "strategic" assets were assigned to a theater of operations, SAC advanced echelon was assigned to handle the strategic assets. Operational control was maintained by SAC. In the past the US Air Force provided the theater air component commander with a Strategic Air Command Advanced Operational Nucleus

* The Air Force does not state that the air component commander must be a USAF officer. The service providing the preponderance of the air assets would furnish the air component commander.

(SACADVON) to support theater strategic bombardment operations.* Currently all air assets are placed under the air component commander.

The four services have formally agreed with the principles of war fighting and theater organization as specified in JCS publications, but have applied the principles in different ways.[63] Looking at the service doctrine and service perspectives, and then comparing these with joint doctrine, the following general statements can be made.

Services provide forces to the unified and specified commanders. They are responsible for training and equipping these forces. The unified or specified commanders are responsible for organizing and employing service assigned forces. The organization is specified in Joint Pub 0-2. The principles found in this publication provide broad guidance for setting up the command structure. What appears to be clear guidance gets cloudy when the services interpret this guidance because each service views the guidance according to its perspectives of war fighting. All four services formally support the broad guidance contained in Joint Pub 0-2; however, in applying these principles there is not always general agreement. This is caused partially by force orientation. That is, Army and Air Force are oriented toward airland operations, while Navy and Marine Corps are oriented toward naval or amphibious operations. Each service carefully guards its functions as specified in DOD Directive 5100.1 and Joint Pub 0-2. It is from this functional basis that issues can arise.

Working of Joint Issues

The following section provides one view of how issues arise and how they are resolved. This concept of working joint issues will provide an insight into the types of problems we face when attempting to develop an organization for airland combat (fig. 1).

When an issue is discussed in the joint arena, the four services take sides according to the type of issue discussed. The types of issues

* Strategic Air Command (SAC) was a specified command and was not part of a unified command. On 1 June 1992 SAC was disestablished and combined with the Tactical Air Command to form the new Air Combat Command (ACC).

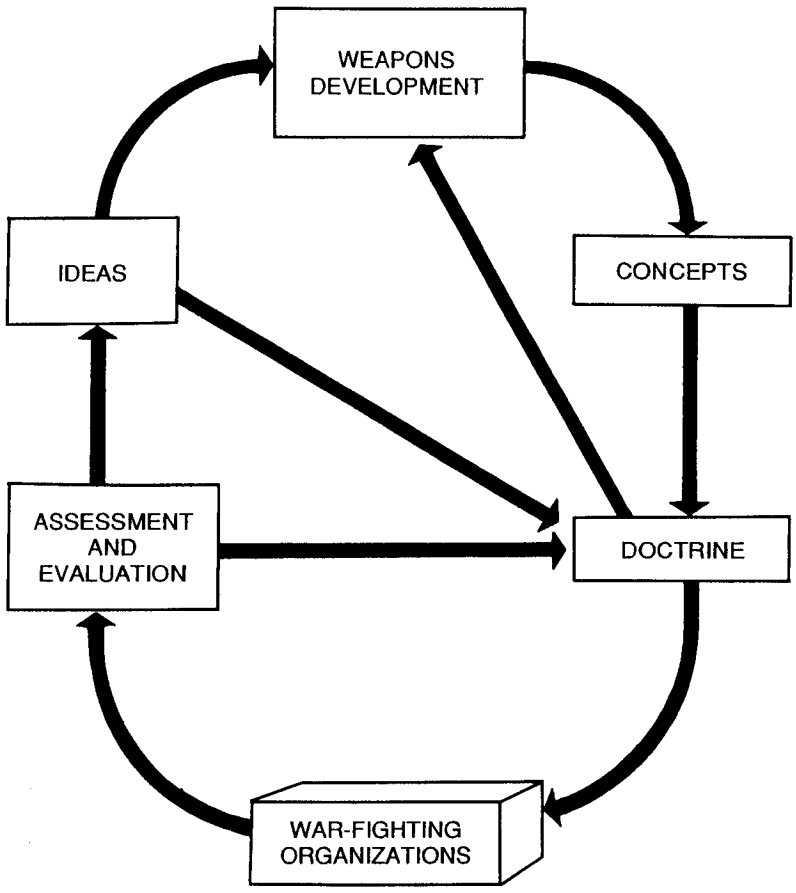


Figure 1. Airland Combat Organization Cycle

normally concern strategy, tactics, or organization—with organizational issues usually generating the most discussion. Figure 2 shows the perception of functions, roles, and missions as a basis for working joint issues. Figures 3 through 6 graphically depict how service issues arise.[64]

When the issue is one of strategy, the Air Force and the Army are usually in agreement and in opposition to the Navy and Marines. It is simply a matter of medium orientation. That is, the Air Force and the Army focus upon a continental strategy—the land and the air over the land and oceans—while the Navy and Marines focus upon maritime activities such as sea control and power projection. A good example is the past discussion over maritime strategy. Much discussion ensued

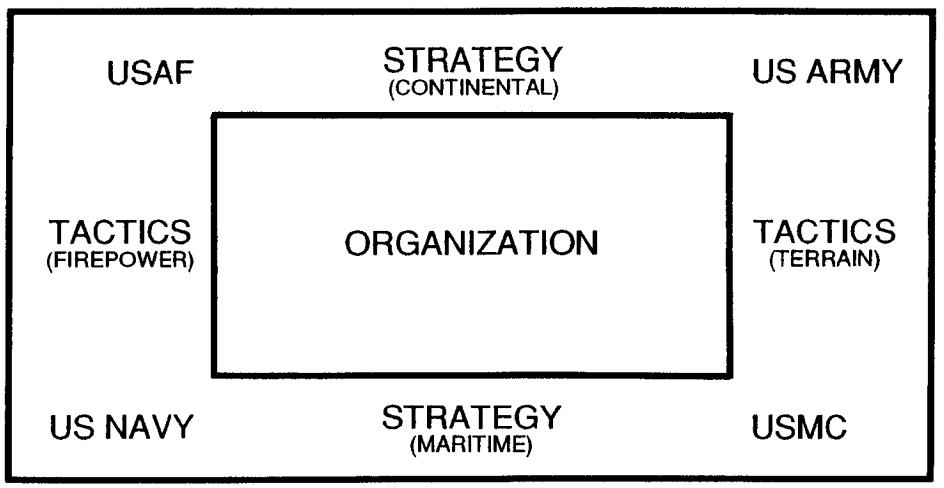


Figure 2. Perception of Functions, Roles, and Missions (as a basis for issues between services—strategy, tactics, and organization)

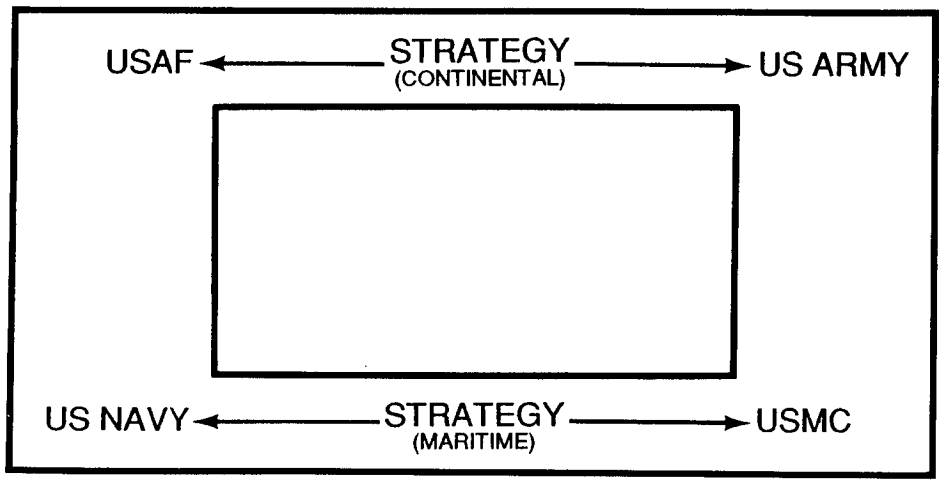


Figure 3. Perception of Strategy Issues between the Services

over whether the United States is oriented toward a naval (maritime) strategy or a land (continental) strategy. Figure 3 depicts this orientation.

When employment or tactics are discussed, the Air Force and Navy are allied and the Army and Marine Corps join sides. The Air Force and Navy focus on delivery of firepower while the Army and the Marines are orientated to physical objectives—land. Figure 4 depicts this orientation.

Perhaps of greater importance are the debates that occur when organizational issues arise between the services. We generally find that the Army and Navy oppose the Air Force and Marines. We find that the "owners" of the primary medium—land and sea—are in opposition to the "tenants" who do not own a primary medium, unless you argue for the qualities of air or the substance of an amphibious objective area. There are exceptions to this organizational alliance. Most notable is the issue over tactical control of air assets. In this case the Army and Air Force are in opposition to the Navy and Marines. This is due in part to an issue that cuts across two areas—organization and strategy—and which includes the question of roles and mission and weapon system employment. Figure 5 depicts this organizational

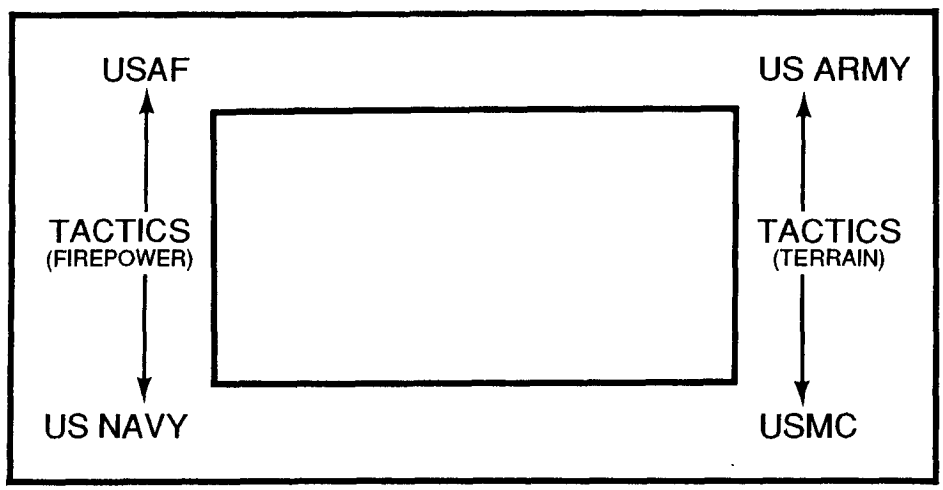


Figure 4. Perception of Tactics Issues between the Services

orientation. Taken together, this is one way issues arise in the joint arena between the services—the basis for service issues (fig. 6).

Since command structures must be approved by the JCS, discussions in the joint arena normally occur along these lines: the Army and Air Force, being oriented toward airland operations, are in opposition to the Navy and the Marine Corps, which are oriented toward maritime or amphibious operations. Since strategy plays an important function also, the discussions tend to focus on medium orientation, that is, continental versus naval. Therefore, discussions in the joint arena are primarily focused on command structures whereby the services argue from a functional approach based upon force orientation.

Any command structure proposal, or modification to an existing command structure, must be specifically addressed by the Joint Chiefs of Staff. A good example of this requirement was the establishment of the new unified command, US Central Command (USCENTCOM).

It should be noted that once agreement has been reached and a structure is set, the procedures to implement the structure are determined by the commander in chief of the unified or specified command—the joint commander. Normally, the commander leaves the detailed integration of procedures and tactics up to the services to work out. As in the case of airland combat, the US Army and US Air Force normally develop procedures to accomplish airland combat; however, all four services must formally approve them. As services normally develop the organization and procedures, issues will arise and must be resolved. Doctrinal differences drive the discussions. These differences have caused issues not to be resolved or to be resolved not necessarily in the "spirit and intent" of Joint Chiefs of Staff publications. Additionally, failure to resolve has caused delays in approving operations plans (OPLAN) and created the environment to modify exercises where modification might not be required. As will be shown later, this debate and failure to make a decision has caused numerous problems.

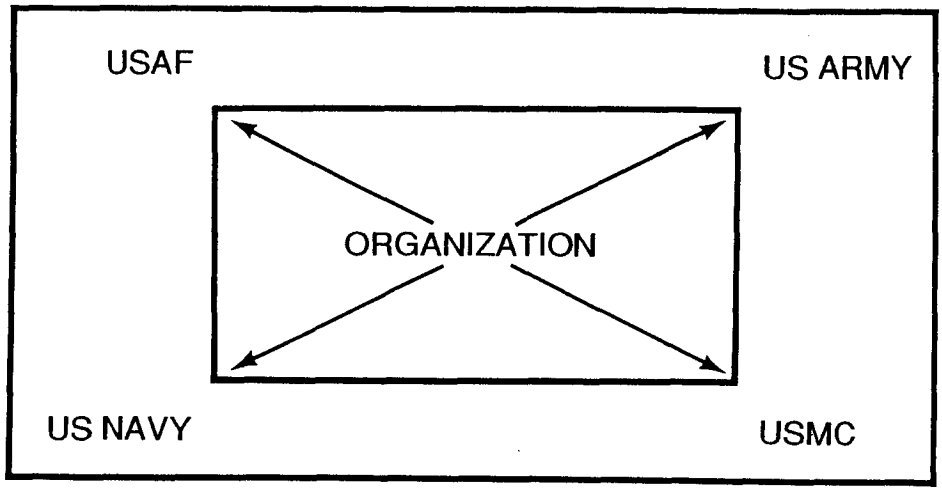


Figure 5. Perceptions of Organizational Issues between the Services

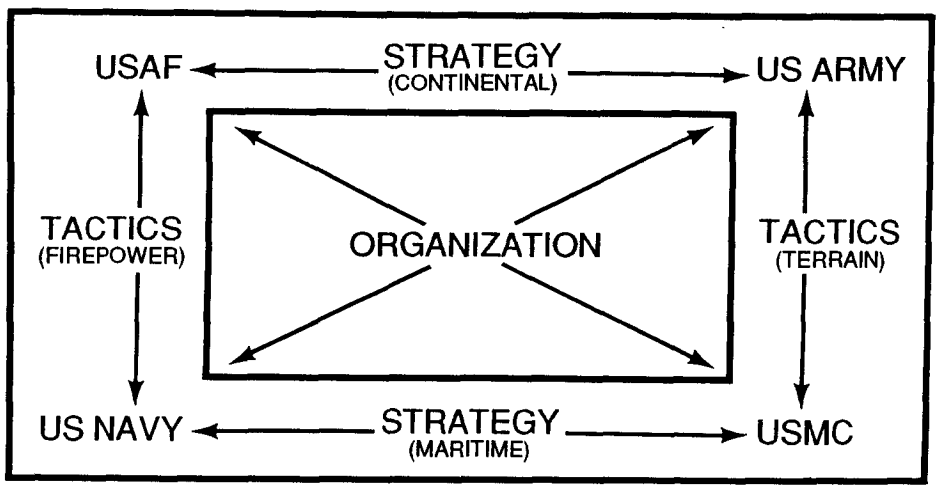


Figure 6. Basis for Issues between the Services

Notes

1. Joint Chiefs of Staff, *Military Posture FY 1985* (Washington, D.C.: Government Printing Office, 1985), 9.

2. I am deeply indebted to Col Ralph L. Allen, USA, for his help in preparing this section of the book. Those interested in the development of the US Army's AirLand Battle concept should see John L. Romjue, "The AirLand Battle: The Historical Background," *Military Review* 66, no. 3 (March 1986): 52–55.

3. FM 100-5, *Operations*, 20 August 1982, 1.

4. Ibid., chaps. 15 and 17.

5. Romjue, 52.

6. I am deeply indebted to Lt Col Brad Bradley, USAF, and Lt Col Bill Hopewell, USAF, for their help in preparing this section of the book.

7. AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 16 March 1984, vi–vii.

8. Ibid., 4-1 to 4-5.

9. Ibid., 3-2.

10. Ibid., 3-6.

11. Ibid., 3-6 to 3-8.

12. Interview with Adm Robert E. Kirksey, US Navy director of Strategy, Plans and Policy Division, Office of the Chief of Naval Operations. See complete interview in Thomas A. Cardwell, *Command Structure for Theater Warfare: The Quest for Unity of Command* (Maxwell AFB, Ala.: Air University Press, 1984), 34–35 and 107–9.

13. Fleet Marine Manual (FMM) 0-1, *Marine Air-Ground Task Force Doctrine*, 31 August 1979, 1-8. See also White Letter no. 7-81, *Command and Control of USMC TACAIR in Sustained Operations Ashore* (Washington, D.C.: CMC, Headquarters USMC, 29 June 1981). This white letter was superseded by White Letter no. 4-86, 18 March 1986, which reaffirms the doctrine and policy contained in the previous white letter.

14. FMM 0-1, 1-8; White Letter no. 7-81, 1, and no. 4-86.

15. Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, December 1986. For a detailed discussion on joint doctrine see Cardwell, *Command Structure*, 56–63, 89–98, and 167–68.

16. Joint Pub 0-2, 1.

17. Ibid., 1-1; Cardwell, *Command Structure*, 56–63, 89–98.

18. Joint Pub 0-2, 1-1. Lt Col Edward M. Postlethwait, USA, "Unified Command in Theaters of Operations," *Military Review* 29, no. 8 (November 1949): 26, describes service doctrinal views on unified operations.

19. Joint Pub 0-2, 1-3.

20. Ibid., 2-12.

21. Ibid., 1.

22. Ibid., 2.

23. Ibid., 2-1, 3-2, 3-4, and 3-19.
24. Ibid., 3-2, 3-4, 3-12, 3-19, 3-20, and 3-23.
25. Ibid., 1-17.
26. Ibid., 1-20g.
27. Ibid., 1-17a.
28. Ibid., 2-1.
29. Ibid., 2-3.
30. Ibid., 2-5.
31. Ibid., 2-6.
32. Ibid., 2-7.
33. Ibid., 2-8.
34. Ibid., 2-10.
35. Ibid., 2-11.
36. Ibid., 2-12.
37. Ibid., 2-13.
38. Ibid., 2-15.
39. Ibid., 2-16.
40. Ibid., 2-17.
41. Ibid., 2-18.
42. Ibid., sec. 2.
43. Ibid., 3-13.
44. Joint Pub 3-0, initial draft, "Doctrine for Joint Operations," December 1988.
45. Ibid., 1-1.
46. Ibid., 1-2 and 1-3.
47. Ibid., 2-17.
48. Ibid., 3-1.
49. Ibid., 3-16 to 3-22.
50. Ibid., 3-22 to 3-23.
51. Ibid.; Cardwell, *Command Structure*, 137–43.
52. In 1973 Gen Creighton Abrams, US Army chief of staff, approved a change in Army doctrine which deleted the army group and merged functions of the field army and corps into a single echelon called the corps. Cardwell, *Command Structure*, 99–105.
53. Lt Gen William R. Richardson, USA, interview with author, 15 October 1981, at the Pentagon, Washington, D.C. General Richardson was at the time the Army deputy chief of staff for operations and plans. He stated that the Army was forced to change its emphasis from the echelon above corps to a corps orientation. However, the Army recognizes the need to provide a joint interface above corps to work out the coordination problems between the corps and the Air Force.
54. Gen Charles A. Gabriel, "The Force and the Future," *Air Force Magazine*, May 1985, 73.
55. Interview with General Richardson and FMM 0-1.

56. FMM 0-1.

57. Ibid.

58. While assigned to the Air Staff during 1977–81, I participated along with Lt Col Willard E. ("Bill") Naslund, USAF, Retired, and Col Robert C. Clark, USAF, in headquarters staff level discussion with the Navy over the issue of "in support of," versus operational control of, naval assets passing to the air component or land component commander. At the staff level, a consensus could not be reached and the issue was not passed to the service chiefs for resolution. Therefore, the agreement stands that naval assets operating in support of land operations and Air Force assets operating in support of naval operations will be used in an "in support of" role.

59. Lt Gen John H. Miller, USMC (now retired), interview with author, 15 October 1981, at Washington, D.C. General Miller, then the USMC deputy chief of staff for plans, policy, and operations, stressed the point that the unique nature of the Marine forces dictates that they must be employed as an integrated team of land, air, and support forces under the MAGTF commander who reports directly to the theater or joint force commander. However, if the theater or joint force commander splits the MAGTF, the USMC would honor that decision. FMM 3-1, *Command and Staff Action*, 21 May 1979, states that Marine forces will be employed under a unified, specified, naval component, or joint task force commander when operating in its primary function of amphibious operations; and when operating in combined operations, Marine forces will be employed as directed by agreed combined doctrine. No mention is made of how Marine forces will be employed in sustained operations in current Marine Corps doctrine publications. The commandant's white letters supply guidance on this aspect of force employment.

60. Doctrine Information Publication (DIP) no. 11, "Command Relationships, the Marine Air/Ground Task Force, and What They Mean to an Airman!" draft (Washington, D.C.: Headquarters USAF, Doctrine and Concept Division, 1982), 31.

61. While assigned to the Air Staff, 1977–81, I participated in discussions on command and control of USMC tactical air assets during sustained operations ashore. I had the honor to present the Air Force's position to the joint chiefs on 12 December 1980. The Marine Corps' position was presented by Lt Col James W. ("Jay") Bierman, USMC (now retired). After deliberations by the joint chiefs, a decision was reached whereby the MAGTF's integrity would be maintained, but the theater or joint force commander would make the final determination of how forces assigned to his command would be organized.

It should be noted that the issue of command and control of Marine aviation assets first came up in 1968 during the Vietnam conflict. The issue continued through the 1970s and 1980s. In 1977 Col Robert C. Clark, USAF (now retired then a lieutenant colonel); Col Merlin D. ("Huck") Smith, USAF (now deceased); Lt Col Willard E. Naslund, USAF (now retired); Col Donald J. Alberts, USAF (now retired then a lieutenant colonel); and I, of the Doctrine and Concepts Division, Headquarters USAF, began developing the USAF position on the single manager for air concept.

In 1978 Col David R. McNabb, USAF (now retired), and in 1979 Col Bruce L. Brown, USAF (now retired), joined the Air Force team when Colonels Smith, Clark, and Naslund left the division. The years 1978 and 1979 saw many discussions between the USAF and USMC over the issue of who should have control of USMC aviation assets—the USAF arguing for the single-manager approach and the USMC arguing for retention of operational control by the MAGTF commander. In 1980 the issue came to a head when USMC forces were introduced into NATO. (See chapter 1, note 106.) The issue was debated in the joint arena by Gen Jerome F. O'Malley, USAF (now deceased), then DCS/Plans and Operations; Brig Gen Robert A. Norman, USAF (now retired), then director of Joint and NSC Matters, Headquarters USAF, and author for the USAF; and by Lt Gen John H. Miller, USMC (now retired), then DCS/Plans, Policies, and Operations; and Col D. E. ("Dep") Miller, USMC (now retired), and Lt Col Jay Bierman, USMC (now retired), for the USMC. The joint staff decided to elevate the issue to the chiefs of the services in December 1980. Colonels Cardwell and Bierman presented the service views to the JCS on 12 December 1980. After much discussion a compromise was reached by the chiefs of the services whereby the integrity of the MAGTF was maintained, but the CINC (theater) or joint force commander would decide how to organize his forces. This is the current guidance on employment of USMC forces during sustained operations ashore. Source: Personal Diary. See also Robert C. Toth, "Joint Chiefs to Resolve Dispute on Air Strategy," *Los Angeles Times*, 12 December 1980, 1. Having been directly involved in the JCS discussions over the employment of USMC tactical air during sustained operations ashore since 1977, I believe that the agreement reached (the so-called *Omnibus Agreement*) by the Joint Chiefs of Command and Control of USMC TACAIR during sustained operations ashore was the best agreement the JCS could make given the requirement for a unanimous decision by the service chiefs. The chairman of the JCS stated that he wanted full agreement—no split decisions. The "vote" after both services presented their views was two to two. The chairman did not vote to break the tie. More discussion ensued and at the end, the chairman stated he wanted to reach a unanimous agreement.

62. Reprinted below is the result of that decision reached on 12 December 1980.

OMNIBUS AGREEMENT ON COMMAND AND CONTROL OF USMC TACAIR DURING SUSTAINED OPERATIONS ASHORE

The Marine Air-Ground Task Force (MAGTF) commander will retain operational control of his organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations the MAGTF air assets will normally be in support of the MAGTF mission. The MAGTF commander will make sorties available to the joint force commander, for tasking through his air component commander, for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support requirements will be provided to the joint force commander for tasking through the air component commander for the support of other components of the Joint Task Force (JTF) or of the JTF as a whole. Nothing herein shall infringe on the authority of the theater or joint force commander, in the exercise of

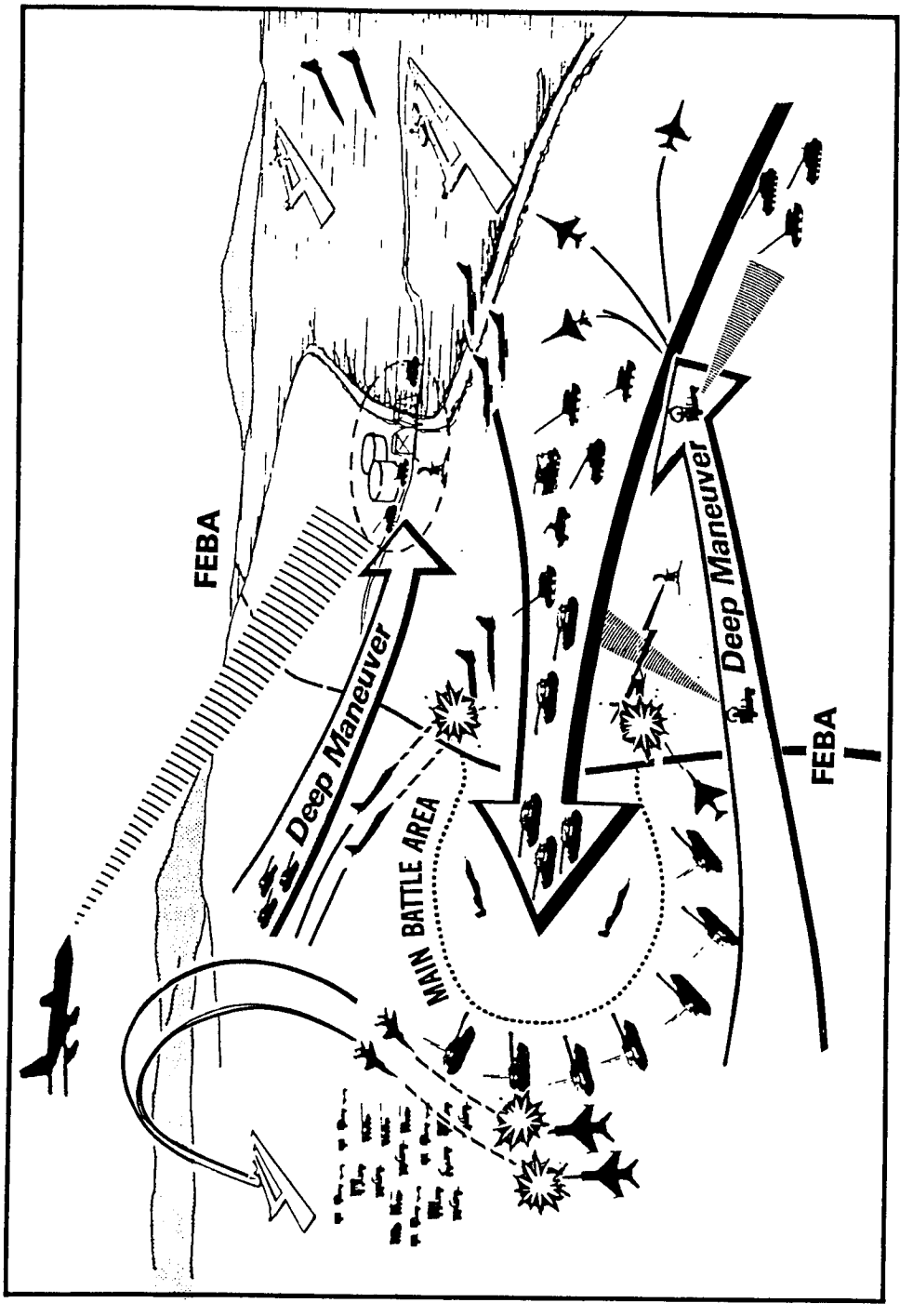
operational control, to assign missions, redirect efforts, and direct coordination among his subordinate commanders to insure unity of effort prescribed in JCS Publication 2, "Unified Action Armed Forces (UNAAF)." USMC White Letter No. 7-81, *Command and Control of USMC TACAIR in Sustained Operations Ashore* (Washington, D.C.: Headquarters USMC, 29 June 1981), and reconfirmed in White Letter No. 4-86, 18 March 1986.

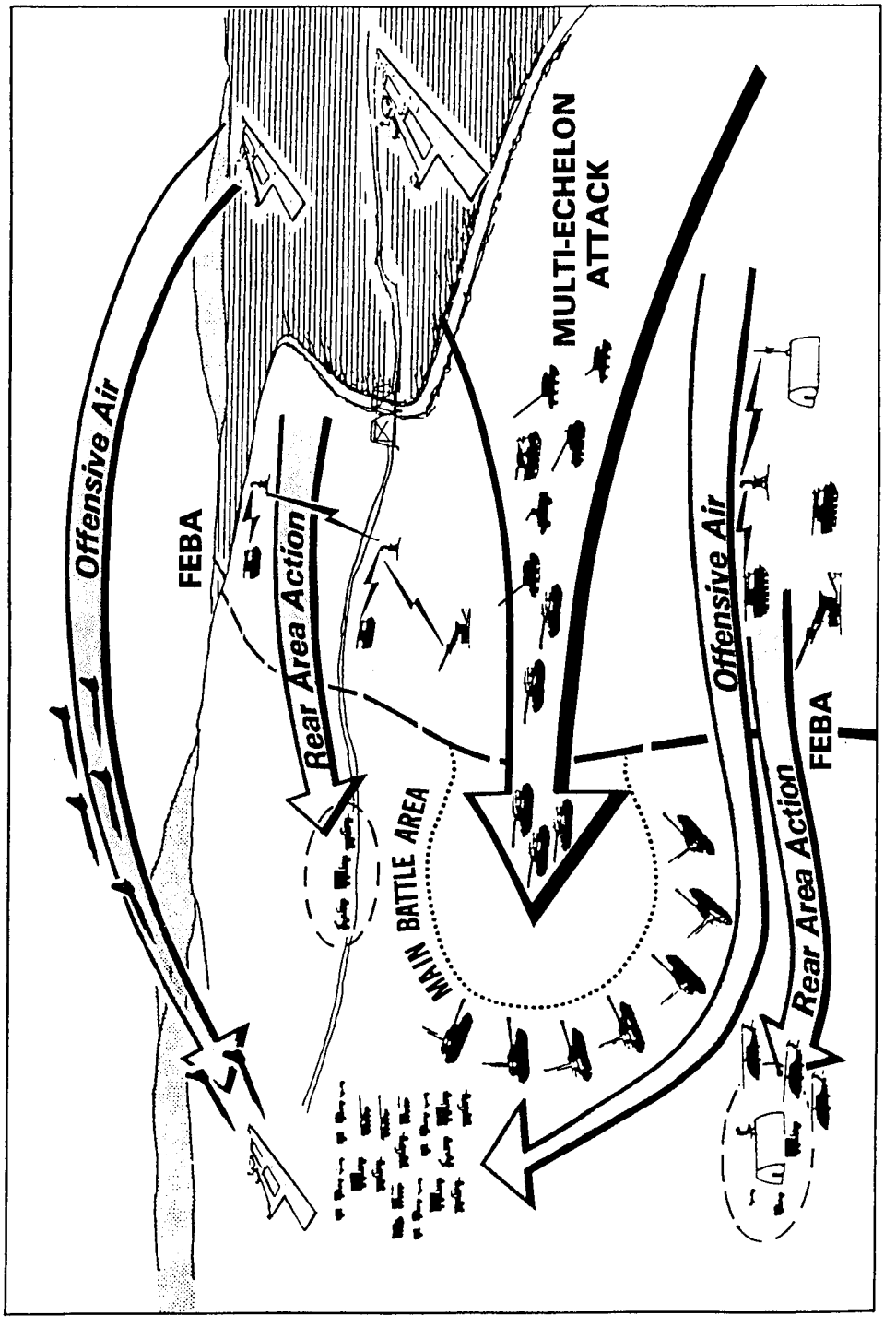
63. The matrix presented below summarizes the services' positions on war fighting and organization for airland combat. It is based upon the services' written doctrine on the subject of a war-fighting organization. Cardwell, *Command Structure*, 45.

	ORIENTATION	PRINCIPLE OF UNITY OF EFFORT	NUMBER OF THEATER COMPONENTS	THEATER OR COMMANDER JTF ORGANIZES HIS FORCES	OPERATIONAL CONTROL EXERCISED BY	SINGLE MANAGER FOR AIR, LAND, AND NAVAL FORCES
USA	Corps, land (highest tactical command)	Agree	3 (naval, land, and air)	Agree	Theater or JTF* commander through land component commander (normally)	Believes in single manager for air, land, and naval forces
USN	Theater (sea and land)	Agree (as long as naval forces are commanded by a naval officer)	3 (naval, land and air)	Agree	Theater or JTF commander through naval component commander (always)	Believes in single manager for air—but naval forces are under naval component
USAF	Theater (air and support of surface operations)	Agree	3 (naval, land, and air)	Agree	Theater or JTF commander through air component commander (always)	Believes in single manager for air, land, and naval forces
USMC	Mission directed (amphibious and other directed operations)	Agree (marine aviation remains under OPCON** of MAGTF)***	4 (add the Marines as the fourth)	Agree (however, prefer not to split the MAGTF)	Theater or JTF commander, or by Marine component commander (uniservice or service component)	Do not believe in single manager for air, land, and naval forces; Marine air and land forces are under one manager, the MAGTF commander

*Joint task force
**Operational control
***Marine Air/Ground Task Force

64. Col Thomas A. Cardwell III, USAF, "How Interservice Issues Arise," *Air University Review* 37, no. 4 (May–June 1986): 76–81. The figures were adapted from this article.


FEBA
Deep Maneuver
MAIN BATTLE AREA
Deep Maneuver
FEBA


Offensive Air
FEBA
Rear Area Action
MULTI-ECHELON ATTACK
MAIN BATTLE AREA
Offensive Air
FEBA
Rear Area Action

Chapter 3

Organization for Airland Combat

Alas! Hegel was right when he said that we learn from history that men never learn from history.

—George Bernard Shaw

Perhaps this quote is an oversimplification, but there is a ring of truth in what he said. Too often we ignore the past when we set up command arrangements for our military fighting forces. As the preceding chapters show, the issue of how to employ our military forces has been addressed numerous times. It appears that we address the issue on how to accomplish airland combat without due regard to how it was done in the past. This is not to say we should not be innovative or look for better ways to organize our forces, but at least we should not fall into the traps of "not invented here" or "let's reinvent the wheel."

Considering service and joint doctrine and the history of airland combat, the following generalized statements can be made. They are divided into commandments (fig. 7) and principles (figs. 8 and 9, see notes 1 and 2) for airland combat.

With these principles in mind, we can look at the issues which affect airland combat and influence the development of the command structure and organization for the conduct of theater operations.

Commandments

1. The outcome of any war, which is a clash of national wills and interests, will not always be determined by the defeat of enemies on the battlefield. Other national instruments of power and influence often determine the results of war. However, successful military operations are an indispensable element of winning wars; therefore, military forces must be prepared—trained, equipped, and organized—to fight and win.*

2. Once the political decision is made to use military forces as part of our national instruments of power, they must be committed to win. The purpose of military operations is to gain victory—not avert defeat.*

3. To win we must fight the airland campaign with the coordinated actions of military forces in pursuit of common objectives.

4. The battlefield of the future will not allow the luxury of continually experimenting with command structures. Therefore, we must organize in peace as we will fight in war. That is, we must learn from history so that we can put aside, in peacetime, our service interests to allow us to organize better for a future war.

5. Airland combat should have as its objective retaining the initiative and aggressively defeating the enemy. This is accomplished by either attacking the enemy on a wide front, or using a narrow concentration of attack for selected in-depth penetration with firepower necessary to obtain the joint commander's objectives. It requires close coordination of air, naval, and land forces.

6. The organization to accomplish the airland campaign is composed of a single commander with three components—land, naval, and air. The organization is based upon the principles of *unity of effort* and *unity of command.*

7. The application of air power in the airland battle should be centrally controlled. This allows air power to be massed when and where it is most needed. The air component commander provides the central point

* In low-intensity conflicts or insurgency-type operations, the issue gets cloudy, but the objective should be to win or gain victory.

-Continued on next page-

of contact for the theater commander and coordinates the use of air power with the land and naval component commanders.

8. The application of ground power in the airland battle should be centrally controlled. The land component commander provides the central point of contact for the theater commander and coordinates the use of land power with the air and naval component commanders.

9. Naval forces, to include Marine assets supporting the airland campaign, will be controlled by the naval component commander as part of the three functional components of the theater command. (Aviation assets will be employed through the air component commander and ground forces through the land component commander, when used to support the land campaign.) The naval component commander provides the central point of contact of the theater commander and coordinates the use of naval power with the air and land component commanders.

10. Coordinated airland combat power allows potentially unlimited movement for military forces. This inherent power provides a capability to maneuver freely in all dimensions and fully exploit the characteristics of speed, range, and flexibility. To realize this potential requires a pattern of employment whereby forces survey, assess, command, control, generate assets, then engage and attack—where the single aim of this employment is victory.

Figure 7. Ten Commandments of Airland Combat

Principles of War

1. **Unity of Command**. Give appropriate authority and responsibility to a single commander to effect unity of effort.

2. **Unity of Effort**. This is the coordinated actions by military forces to accomplish a common goal through a single commander who exercises unity of command over the components of his command.

3. **Objective**. Any military activity must have a clear and concise statement of a realistic objective. (It must be remembered that war is a means to achieve a political objective and must never be considered apart from the political end.)

4. **Surprise**. A force must attack the enemy at a time, in a place, and in a manner for which the enemy is neither prepared nor expects.

5. **Offensive**. Unless offensive action is initiated, military victory may not be possible.

6. **Security**. Continuous, positive measures must be taken to prevent surprise and allow freedom of action.

7. **Mass and Economy of Effort**. Success on the battlefield requires a proper balance between mass and economy of effort. (Economy of effort—i.e., force—is a means to attain mass.) Concentrated firepower can overwhelm enemy defenses and secure an objective at the right time and place.

8. **Maneuver**. Combat requires interaction of moves and countermoves. Commanders seek to maneuver their strengths selectively against enemy weakness while avoiding engagements with forces of superior strength.

9. **Simplicity**. To achieve unity of effort toward a common goal, guidance must be quick, concise, and clear—in short, it must have simplicity.

10. **Cohesion**. To win, it is necessary to establish and maintain the war-fighting spirit and capability of a force.

Figure 8. Ten Principles of War in Support of the Airland Campaign

Principles of Command

1. **Unified Command**. The integration of combat forces is known as unified operations and is based on effective use of the military power which requires that the efforts of the separate services be closely integrated into an efficient team of land, naval, and air forces. These forces are organized under the principles of unity of effort and unity of command.

2. **Maximum Integration**. The integration of policies and procedures to produce an effective, economical, and harmonious organization is called maximum integration. Force should be integrated so as to be able to effect the outcome of any combat situation and have some degree of survivability.

3. **Full Utilization of Forces**. Each service's unique capabilities must be exploited to their full potential to achieve the effective attainment of overall unified objectives.

4. **Command**. This principle provides the authority vested in an individual for direction, coordination, and control of military forces. Command consists of two elements—operational command and operational control (which includes tactical control). **Operational Command**: The command authority vested in a commander to exercise command over his assigned forces. **Operational Control**: The overall commander exercises operational control through the subordinate commands of component—land, naval, and air—commands. **Tactical Control**: The detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish assigned missions or tasks.

5. **Selection of Commanders**. The overall commander will set up his command and control structure and will not act as commander of any of his subordinate commands. Component commanders will be commanded by the senior officer of the service assigned to the overall command from the service with the largest share of the forces. The staff to support the commander should have knowledge of their service so as to properly advise the commander.

Figure 9. Five Principles for Establishing Commands

Airland Combat Issues

Many of the doctrinal problems identified during World War II are still with us today. A look back, therefore, can be a useful reminder of how such problems developed and how they might be solved.

—Gen John T. Chain

There are four issues that directly relate to joint airland combat. These are: functional versus service components; centralized control of air power; attack in-depth, follow-on forces attack (FOFA), or joint interdiction; and low-intensity conflicts.

Functional versus Service Component

"Command arrangements provide the structure through which commanders employ their forces. An effective command structure, combined with common doctrine, is essential to winning wars." [3] Any command arrangement consists of an overall commander* with components which exercise operational control of assigned forces. The services provide forces to the combatant commands. This command arrangement provides for a service chain of command and an operational chain of command. Figure 10 depicts the relationship between these two distinct chains of command.

This issue is one over interpretation of the term *component*. There is discussion within the services over the term *component* as used in Joint Chiefs of Staff (JCS) Joint Pub 0-2. There exists some confusion on interpreting and applying this concept to the command arrangements in our unified command structure. The confusion focuses on the ambiguity of the terms *component* and *service component*. Discussions of command relationships in the joint arena have centered around whether Joint Pub 0-2 is to be interpreted to mean that a component is either a "service term"—that is, US Navy or US Air Force component— or a

*The term *commander* refers to the theater or joint force commander which is the commander of a unified or specified command or joint task force—the joint force commander. The terms *theater* and *joint force* commander are used interchangeably in this book.

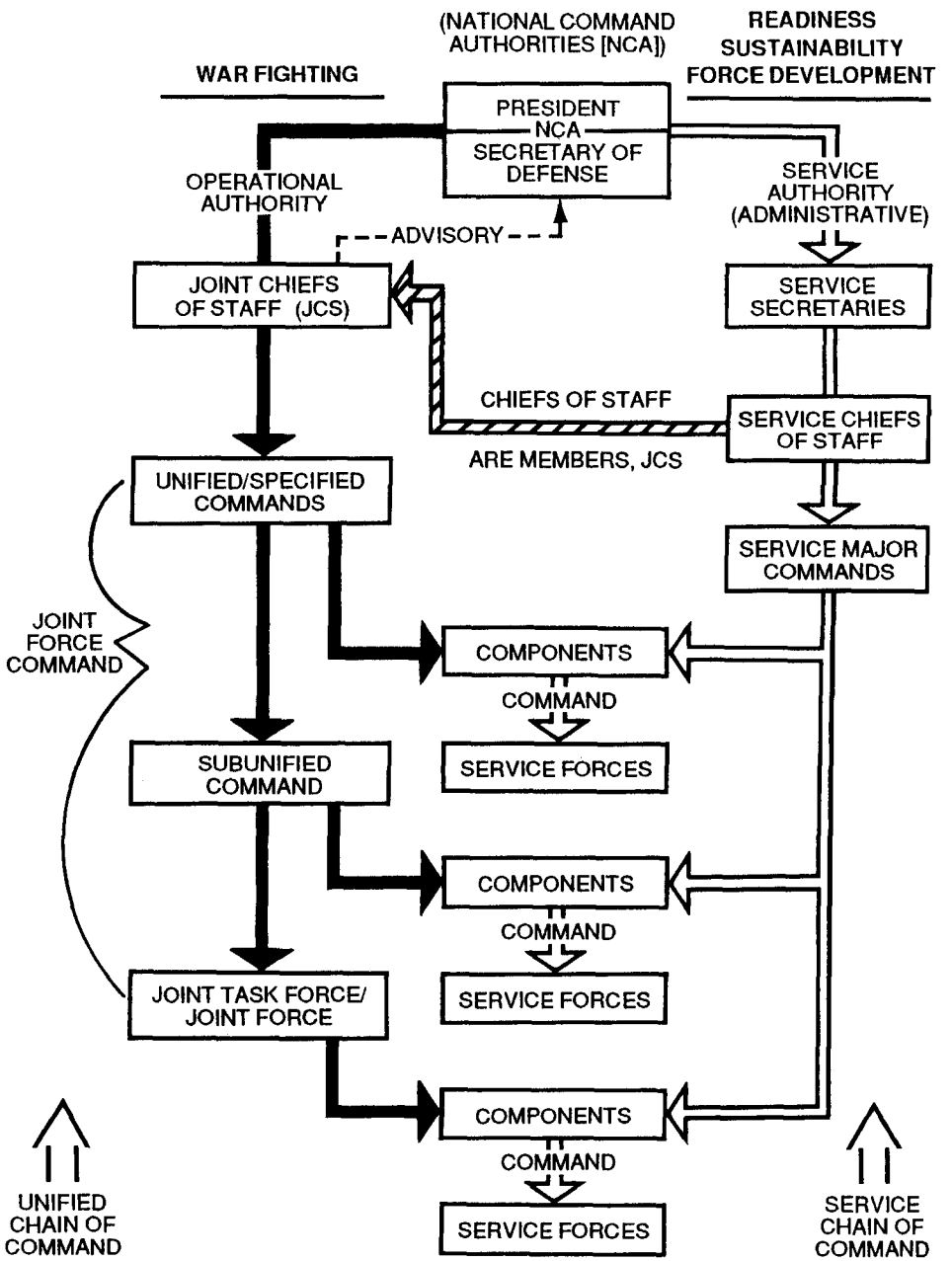


Figure 10. Command Structure

"functional term"—such as air, land, or naval component.[4] The Marine Corps and Navy favor the service descriptive tag—Marine component or Navy component—while the Army and Air Force favor the generic tag—air component or land component.

Use of the term *service component*, such as US Air Force component, does not consider those military situations when a member of other than US Air Force has operational control of air assets. The issue is more than one of terminology. It is one of doctrine. Use of parallel terminology and doctrine facilitates a smooth transition from US unified to allied combined operations. Our allies manifest this philosophy clearly in agreed-on doctrine. For example, Allied Tactical Publication (ATP) 33(A), *NATO Tactical Air Doctrine*, states that military forces are "functionally arranged into naval, land, and air components, each with a component commander."[5] Our combined doctrine in the Pacific region, Air Standard 45/3, *Tactical Air Doctrine*, expresses the same thought.

Endorsement of the term *service component*, vice just *component*, implies an endorsement of the term *US Navy component*, for example. Use of this descriptive tag implies the acceptance of a multicommander concept—that is, two or more commanders responsible for the same general mission—which has two or more forces that are usually organized, trained, and equipped to handle the same basic mission, all operating in the same theater. The use of two US ground forces (e.g., one composed of Marine troops and the other composed of Army troops) is a good example.

Endorsement of the term *component*, vice *service component*, implies an endorsement of the term *air*, *land*, or *naval* component which supports the doctrinal concept of having a single commander for all generic theater-assigned assets regardless of service affiliation. As an example, the importance of having a single air commander was affirmed in JCS Memorandum 2502/645-1 which states:

> To realize their full potential and effectiveness, air forces must be employed as an entity under command arrangements that preclude dissipation or fragmentation of effort and permit the integrated, responsive, and decisive application of available air assets to tasks in the overall air effort that best

> achieves designated objectives. Unity of effort is best achieved when planning and control of the air effort are centralized at the highest level practicable under the unified authority of a single air commander.[6]

Additionally, the JCS approved new doctrine to improve command and control and unity of effort of our operations in a theater. This doctrine clarifies the authority of the joint force commander to appoint a joint force air component commander and outlines his responsibilities. The text of this discussion, which follows, appeared in JCS Publication 26, *Joint Doctrine for Theater Counterair Operation (From Overseas Land Areas)*:*

> The Joint Force Air Component Commander derives his authority from the Joint Force Commander who has the authority to exercise operational control, assign missions, direct coordination among his subordinate commanders, redirect and organize his forces to ensure unity of effort in the accomplishment of his overall mission. The Joint Force Commander will normally designate a Joint Force Air Component Commander. The Joint Force Air Component Commander's responsibilities will be assigned by the Joint Force Commander (normally these would include, but not be limited to, planning, coordination, allocation and tasking based on the Joint Force Commander's apportionment decision). Using the Joint Force Commander's guidance and authority, and in coordination with the other service component commanders and other assigned or supporting commanders, the Joint Force Air Component Commander will recommend to the Joint Force Commander apportionment of air sorties to various missions or geographic areas.[7]

The current system of using the service component method of command, in my view, does not serve the stated purpose of Joint Pub 0-2 which is to organize our combat commands as an integrated team of land, naval, and air forces. The functional approach, as opposed to the service component approach, is the proper organization for the reasons stated above.[8] The discussions in the sections titled "Command Structure" and "Conduct of Operations" use this functional approach as opposed to the service component approach.

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*Now numbered Joint Publication 3-01.2.

Centralized Control of Air Power

The issue of centralized control of air power has been around since aircraft were first thought of in a military context.[9] It is closely related to one of the components discussed above in that if you have a service component, you can have more than one air component operating in the same area. The rationale for centralized control is below.

The air component should comprise all of those elements engaged in sustained air operations on a daily basis. Thus, marine and naval air, when directed to support operations in a theater, and Air Force strategic and tactical airlift such as bomber and fighter air assets assigned to a theater of operation, should be under the operational control of the air component commander.* Army, Navy, and Marine fixed-wing liaison aircraft and liaison helicopters are not included. (These assets are organic to service needs and are more effectively employed by that service.) Having all air assets under one commander is the only sure means of using these forces in a coordinated manner to achieve the objectives set forth in the theater strategy. Decisions that have to be made on a daily basis demand detailed planning and careful coordination of all assets in order to get the most from the assigned air elements. There should not be any cross-purposes or different interpretations of what the jobs of these elements are. The air component should contain forces that have a variety of capabilities to handle all of the air missions that may evolve in the course of airland operations. The pace of the air war is such that there isn't time to go through a long and tedious process of coordination and arguments about what should be done and when. The decisions must be made, and the forces must execute in accordance with a coordinated plan of action. This principle of operation is applicable not only to the air elements of a given country but also to the air elements of a number of countries assigned to a theater of operations.

At lower levels of command, ground commanders are concerned about control of air operations because of their tremendous impact upon

*Of course naval air—US Marine and US Navy—together and separately have their own legitimate theater of operation. Only when supporting the operations of the other components (e.g., land and air) would this apply.

the capabilities of ground forces and the rapid response time of these air force systems. Since the air weapon system is the only system that can be directed to such a wide variety of targets, there is a desire on the part of some ground commanders to have it under their direct control. By being under such control, air firepower can be employed exclusively to the area of responsibility assigned that ground commander. If the air weapon system is assigned to the air component, then the ground commander has to compete with the air commander for its use. The United States started World War II with tactical air units under the control of divisions and corps in North Africa. The result of that early experience demonstrated the folly of parceling out air power. The initial employment of air power in the Second World War was in support of the various ground forces when the enemy air force dominated the sky. The priority employment of air power should have been to gain air superiority so that it could then provide effective concentrated air support to the divisions and corps engaged in combat operations. The absence of a theater structure during these early days encouraged this division of air power and the resulting near disaster.*

Centralized control of air power enables the corps commander to get more support than if air power were under his control. The support will be in the form of air superiority to protect friendly forces and reduce enemy fighting strength because the centralized control of air power permits concentration of effort against decisive elements of enemy strength. There is no way to achieve this application of strength and results if each corps commander is given control of a portion of the tactical air power.

Generally, air power today—with the exception of marine and naval air assets and strategic air power—is centrally controlled by the air component commander. It is my view that *all* air power should come under the air component commander.

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*Gen William W. Momyer, USAF, Retired, helped in the preparation of this rationale for a single manager for air. This information was collected from correspondence, interviews, and personal and telephone conversations with General Momyer from 1978 to 1991.

Attack In-depth, Attack on Follow-on Forces, or Joint Interdiction

One of the overriding considerations in determining the use of air power is one of attacking targets located deep in enemy territory. Many names—extended battlefield, interdiction, deep attack, attack of the second echelon, follow-on forces attack, integrated battlefield, and so forth—have been applied to the mission of striking targets beyond the forward line of our own troops. This issue still exists and is embodied in the current tenets of follow-on forces attack, Army AirLand Battle doctrine, joint interdiction, and Supreme Allied Commander, Europe's (SACEUR) long-term planning guidelines.

Follow-on forces attack—or FOFA—is a Supreme Headquarters Allied Powers Europe (SHAPE) subconcept* for employing conventional forces.[10] FOFA is designed to attack, with conventional weapons, Warsaw Pact forces from "just behind the troops in contact to as far into the enemy's rear as our target acquisition and conventional weapons systems will allow."[11] This concept addresses the traditional echeloning in depth of Soviet-Warsaw Pact offensive forces, as well as the emerging Soviet operational maneuver group (OMG) concept. FOFA is designed to permit the attacking of targets that will have an effect, in the near term, upon the central battle by preventing, hindering, or delaying the use of an area or route by the Soviet-Warsaw Pact forces. The objectives of FOFA are to delay, disrupt, divert, or destroy an enemy's military potential before it can be used effectively against NATO forces. FOFA views the battle from the theater commander perspective while AirLand Battle doctrine sees it from the corps commander perspective.

Even the events in the 1990's struggle for balance of power between NATO and the Warsaw Pact will not mitigate the need, in the view of the Army, to continue to plan for deep attack. Therefore, it is unlikely that the issue of FOFA will disappear in the near future.

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*FOFA is a part of the larger SACEUR concept for employing conventional forces. Since FOFA was conceived by former SACEUR Gen Bernard Rogers in the early 1980s as a version of AirLand Battle deep operations tailored to Europe (and palatable to NATO), the issue has steadily gained momentum. The Air Force has begun to reassert that the air commander must orchestrate FOFA operations beyond the fire support coordination line (FSCL) as part of the theater interdiction campaign.

AirLand Battle doctrine encompasses deep operations. It is an extension of the battlefield, in space and time, of the corps and division commanders' planning horizon. The Army view of the battlefield is that it consists of three inextricably linked areas—rear, close-in, and deep. According to Army doctrine the corps commander must influence these areas out to some 150 kilometers beyond the forward edge of the battle area.[12] This is accomplished in the deep battle area by destroying, disrupting, or delaying enemy follow-on formations before they reach the main battle, or close-in, area.

The Army updates its AirLand Battle doctrine as needed to reflect the current world situation. The Army is developing a war-fighting strategy called "AirLand Battle—Future" to account for the dramatic geopolitical changes that occurred in late 1989 and early 1990. The current refinement to the AirLand Battle doctrine envisions a smaller but more versatile ground force that allows deployment of light, heavy, and special operations forces. The latest edition of AirLand Battle doctrine still has the corps at its center with improvements in intelligence of the battle area so that it can avoid long-duration/attrition battles.

Interdiction is attack to delay, disrupt, divert, or destroy an enemy's potential before the enemy can harm friendly forces.[13] Air interdiction has the same objective, and the air component commander provides interdiction for the joint force commander.

Additionally, as part of air interdiction, battlefield air interdiction air forces provide in direct support of the airland campaign. Joint interdiction is the combination of the capabilities possessed by air forces—the ability to conduct air interdiction missions—with the capabilities possessed by land forces—the ability to strike targets in the zone just beyond the close-in battle area. (Interdiction becomes joint when two or more services provide systems to accomplish this task.)

There are several terms—*deep attack, extended battlefield, follow-on forces attack, joint interdiction*—that describe a similar function that has as its aim to delay, disrupt, or destroy the enemy's potential before it can be used against friendly forces. This function is to perform combat operations at such distances from friendly surface forces that detailed

integration of specific actions with the fire and movement of friendly forces normally is not required. This form of attack is usually executed against enemy surface forces; command, control, and communication networks; force buildups; supply points; airfields, and so on. The interdiction campaign should limit the enemy's mobility to maneuver forces, while forcing them into a high consumption rate and creating opportunities for friendly forces to exploit the disabilities produced by these interdiction missions. The phasing, timing, and weight of effort of interdiction attacks can provide friendly forces the time and opportunity to seize the initiative and deny that same opportunity to enemy forces.[14]

Much of the discussion in the joint arena has been misdirected as we have used too many terms for the same function. Had the focus been upon interdiction vice FOFA, or extended battlefield, or deep attack, much of the controversial discussion could have been avoided.

Low-Intensity Conflict

Gen W. H. Nutting, former commander of Readiness Command, stated: "Low-intensity conflict is the most important strategic issue facing the US. If we don't learn to deal with it, we risk being isolated in an increasingly competitive world."[15] Given the current world situation and the projected threat in the foreseeable future, conflict at the lower end of the spectrum appears to be the most likely.

US military forces must have the ability to distribute and apply military means to fulfill our national policy at all levels of conflict. Success depends upon a sound calculation of objectives and requires that the means employed should be proportioned to the objective being sought.

There are many different views on how to accomplish military actions in low-intensity conflict. Numerous discussions are being held in the joint arena on this subject. Military planners must decide how to employ military forces in such actions based on the strategy espoused in joint documents. This strategy relies on an organization which must be capable of handling low-intensity conflicts. The command structure

proposed in the next section accounts for all levels of conflict, including low-intensity conflict.

Command Structure

Experiences . . . have indicated that in many operations, if not in the majority, the task was of necessity accomplished by contributions from two or three services acting under the principle of unified command. . . . The welding of the forces resulted in the greatest possible concentration of combat power at the decisive point while at the same time permitting the greatest economy of force.

—Gen Dwight D. Eisenhower

Command structures, theater strategy, and operational plans are developed by the Joint Chiefs of Staff, in concert with the unified and specified commanders and the military services, and in response to Department of Defense guidance as contained in our national security objectives. Based upon our strategy, the unified—joint force—commanders are then charged with preparing operational plans to carry out the broad guidance provided by the Joint Chiefs of Staff.

Our objective is to be prepared to meet all challenges. This requires that US military forces be able to conduct military operations at all levels of the spectrum of conflict.[16]

To accomplish this objective, we must have an effective organization. The organization is called the unified command structure. This structure must be organized to accomplish assigned military missions. The theater or joint commander is responsible to the national command structure, through the JCS, for accomplishing assigned military missions.[17] The theater commander has full operational command over the service-assigned forces. The operational chain of command starts with the national command authorities (NCA), goes through the JCS, to the single theater commander (see fig. 10).[18]

To support the theater commander, a joint staff is required.[19] The elements of this staff are as follows: personal staff (e.g., executive officer, aides, and a public relations team), personnel division, intelligence division, operations division, plans division, logistics

division, and communications-electronics division. The composition of the staff should include representation from the services assigned to the theater command. The staff officers must be able to advise the commander on service doctrine, tactics, techniques and procedures, capabilities, needs, and limitations. "Positions on the staff should be divided so that service representation and influence generally reflect the service composition of the force."[20] The success of any joint system is the staff which is composed of people with current field experience. Gen P. X. Kelley, former commander of the Rapid Deployment Joint Task Force, stated: "People who have demonstrated their ability to provide expert advice to the theater commander is what is required for the joint staff to be effective. What is needed is demonstrated leadership, not professional staffers."[21]

The composition of the senior staff should be based on the assigned mission with each of the services represented on the staff. If the theater commander is a soldier, then the deputy should be either an airman or a sailor—depending on the theater. If it is primarily a land theater, then the deputy should be an airman, and the chief of staff should be a naval officer. The other senior staff positions should be balanced between the services. This encourages harmonious relations between the services and provides the needed expertise for the joint staff.

Below the theater commander and the staff are three components—land, naval, and air. It is important to note that the division is not based upon the service but upon the missions they are to perform. The services provide forces to the unified command, and these forces are under the operational command of the theater commander. To employ these forces effectively, the commander exercises operational control through the component commander. Figure 11 shows this command relationship.

The Army, Navy, and Air Force generally agree on the three-component system for force employment. However, the Navy agrees with the Marine Corps that for sustained operations ashore, a fourth component—a Marine component—should be added. However, given the theater-assigned missions of a unified, combined, or joint command structure where two or more services, or two or more nations, are assigned to the command, a fourth component is not needed. The Marine

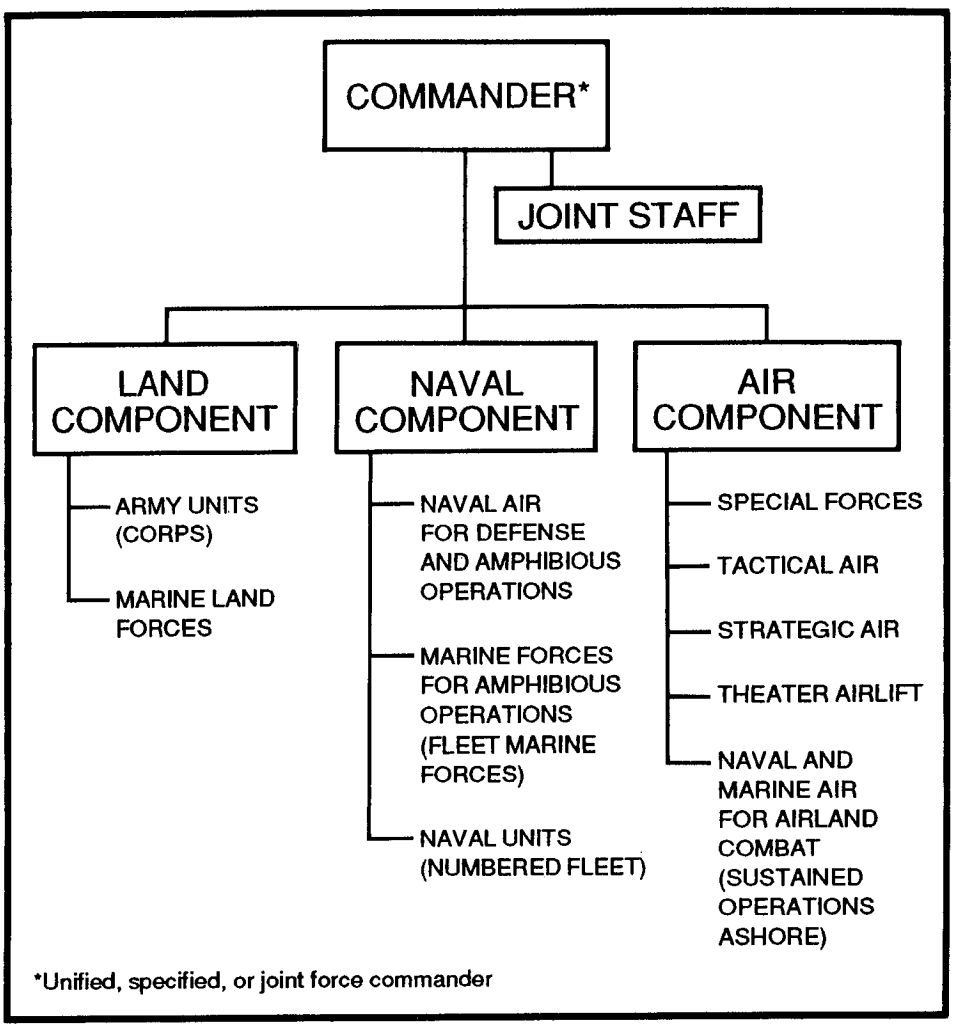

Figure 11. Component Command Structure

forces should be assigned to either the land, naval, or air component command depending on their assigned mission. The assignment of Marine land combat forces directly under the theater commander and not under the land component commander would create, in effect, a second land army and a second air component command.[22] It makes little sense to have two land or two air commanders doing the same job. This is not to state that a US Marine Corps senior officer should not be a component commander within a theater command.[23] The key is that

the service with the predominance of component forces should head that component. If the Marine Corps has the predominance of land forces, then the land component commander should be a Marine officer. If the predominance of air forces were Marine aviation assets, then the air component commander should be a Marine officer.[24]

The commander of the component command should be the senior officer of the service with the majority of theater-assigned component forces.[25] The theater commander and the component commander should never be the same person. The component commander should have a staff to support the assigned mission. Composition of this staff is dependent on the mission; but, in general, it should contain liaison elements, plans and operations divisions, intelligence, and other staff elements deemed appropriate by the component command, to include members of the various services who are included in that component.[26] If Army and Marine Corps forces are assigned to the land component and the Army has the predominance of forces, the senior Army officer would be the land component commander and the senior Marine Corps officer would be the deputy commander. Figure 12 shows the overall theater command structure, and figure 13 depicts a notional component command structure. Note that the staff structure does not have a specific fixed organization but is staffed based on the varied theater-assigned missions, the theater of operations, the forces assigned, and the desires of the component commander. Looking at each of the components, certain statements can be made concerning the organization of the component command structure.[27]

Land Component Command

The land component command comprises the land forces assigned to a theater of operation. Its mission is to employ combat forces to support the unified command structure.[28] The commander exercises operational control of assigned forces and is responsible for plans and forces to support the unified command plans and operations.

Generally speaking, these functions include land combat, intelligence, psychological operations, civil affairs, unconventional warfare, combat service support, cover, deception, and electronic

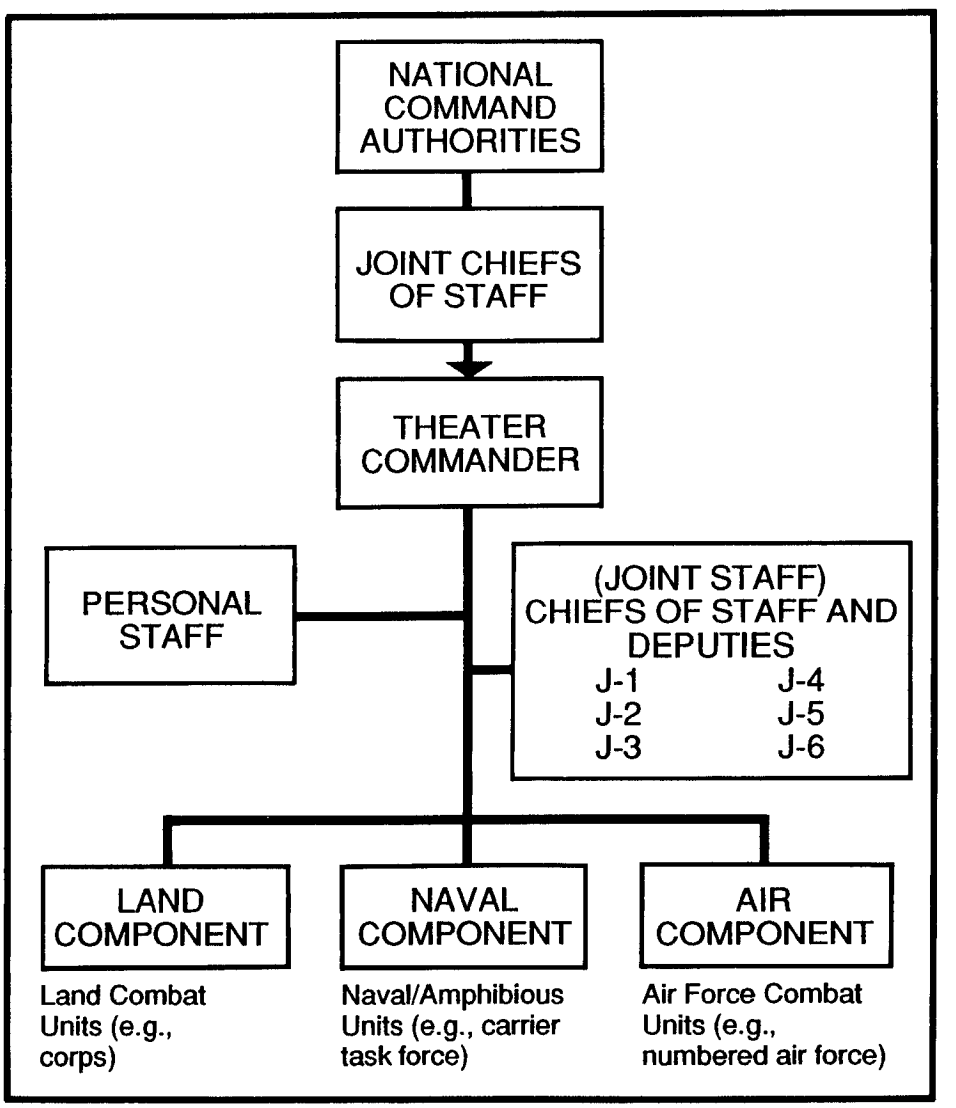

Figure 12. Theater Command Structure

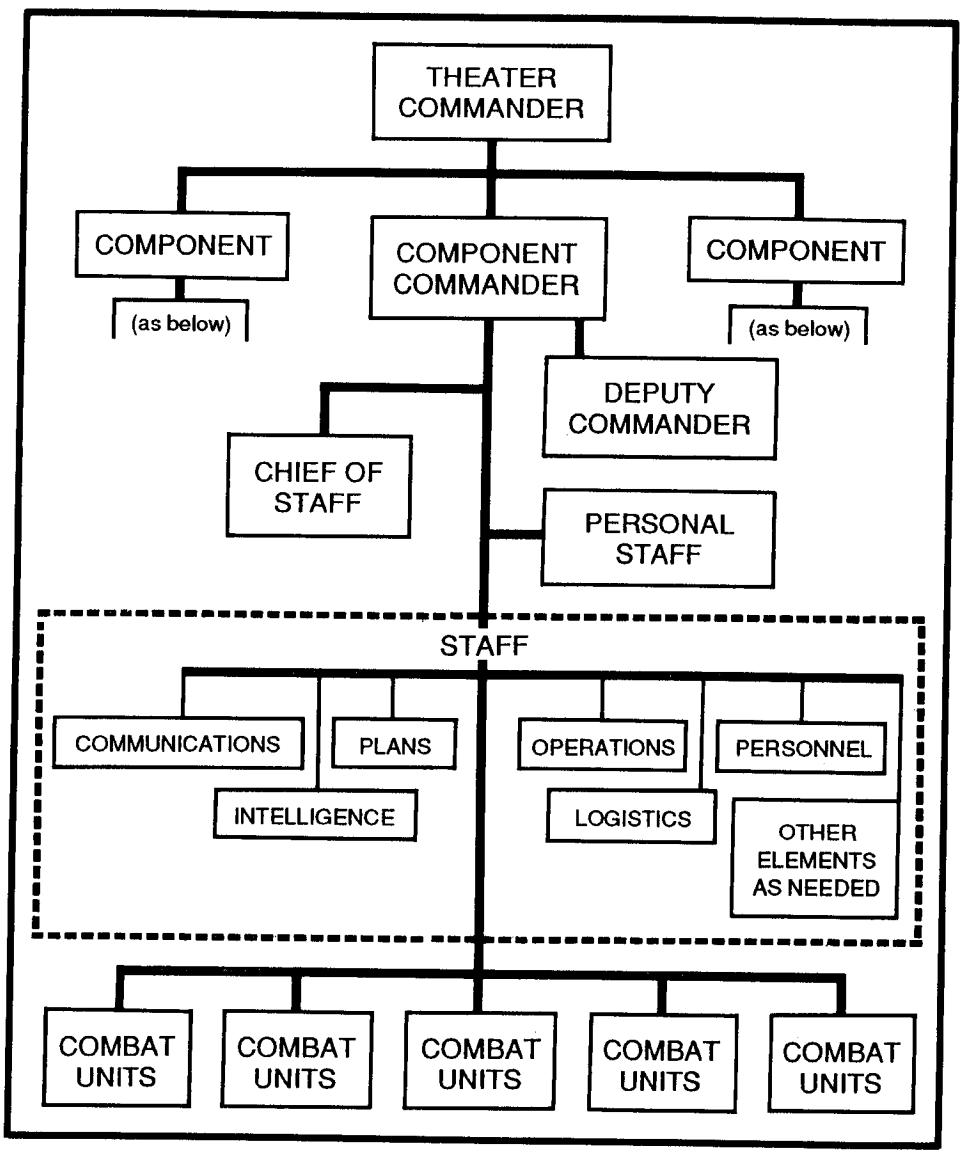

Figure 13. Notional Component Command Structure

warfare operations.[29] The combat unit is normally the Army corps and Marine land combat units. (See figure 14 for a notional land component structure.)

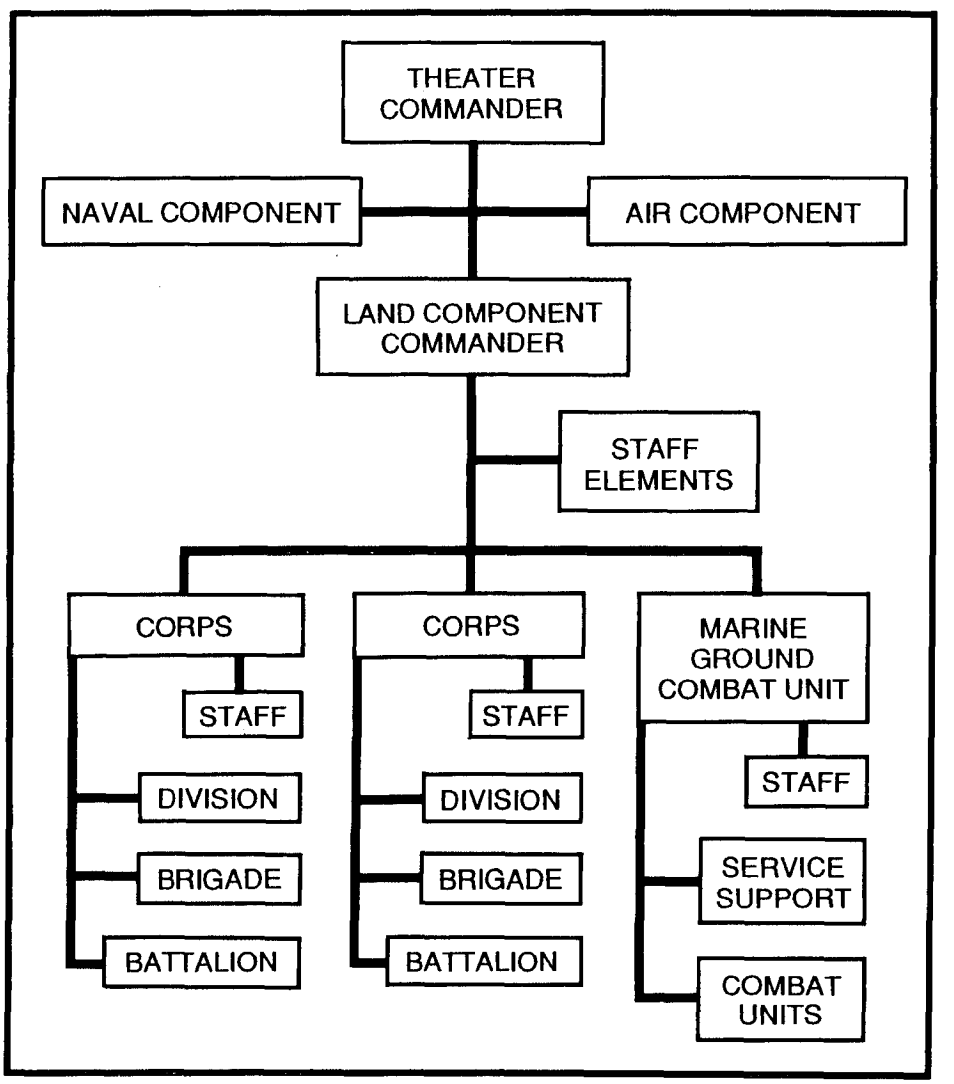

Figure 14. Notional Land Component Structure

Naval Component Command

The naval component command comprises the naval forces assigned to a theater of operation. Its mission is to employ combat forces to support the unified command structure. The commander exercises operational control of assigned forces to support the unified command plans and operations.

In general, the function of the command includes gaining control of sea lines of communication and the sea approaches to the landmass, as well as amphibious operations and support of the land battle. This last function, support of the land battle, implies support in the areas of resupply and reinforcement of ground and air elements. During sustained operations ashore, this includes naval air assets in support of the airland battle. When naval aviation units are assigned to support the land battle, these aviation units should be assigned to the air component commander. The combat elements depend on the assigned mission.* Figure 15 contains a notional naval component structure.

Air Component Command

The air component command comprises the air forces assigned to a theater of operation. Its mission is to employ combat forces to support the unified command structure. The commander exercises operational control of assigned forces to support the unified command plans and operations.

In general, these functions include counterair, air interdiction, close air support, tactical airlift, air reconnaissance, and special air operations. All theater-assigned air assets, excluding Army organic aviation, and specialized naval aviation (such as P-3C and C-2A aircraft) should be assigned to the air component commander. This includes the strategic, tactical, and airlift systems employed in a theater of operation.[30] The combat element depends upon the assigned mission. (See figure 16 for a notional air component structure.)[31]

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*This of course does not mean the carrier should be assigned to the air component commander but rather the tasking for the sorties provided by the carrier wing should be given to the air component commander.

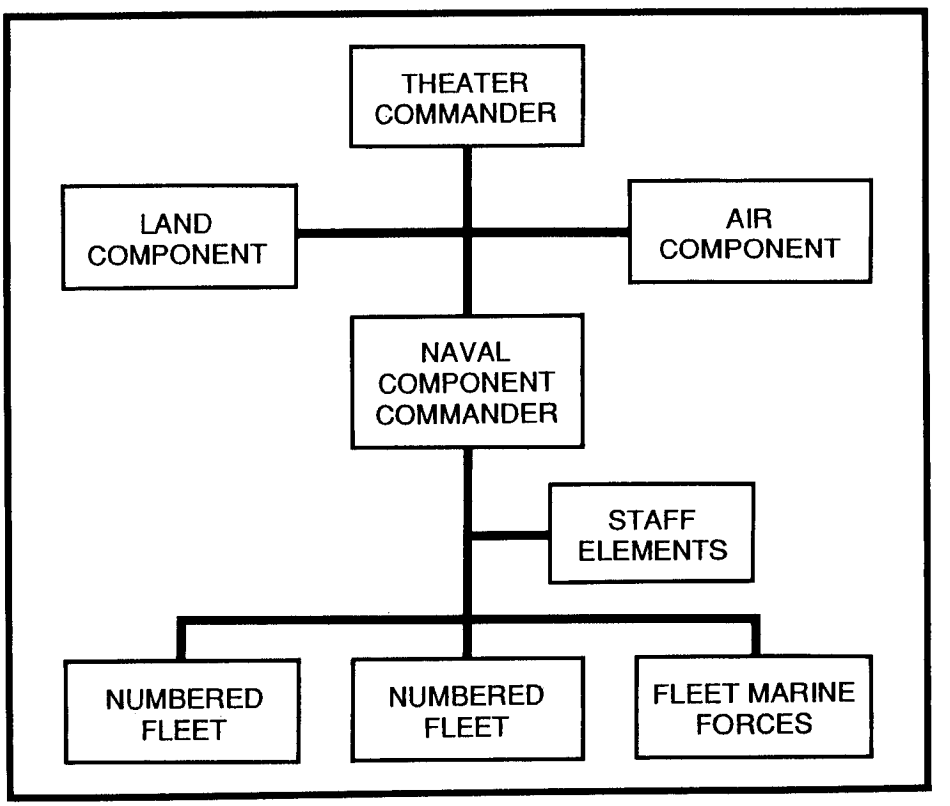

Figure 15. Notional Naval Component Structure

Command Structure Summary

Accomplishing the military objectives assigned by political authorities to a theater command requires a coherent approach to war fighting. This approach demands a detailed knowledge of warfare, history, service doctrine, tactics, and one's own forces and their capabilities and an understanding of enemy forces and their capabilities. Service and joint doctrine to support the military objectives and the command structure for theater warfare must be oriented toward a unified approach for warfare.

History has shown that the most efficient method to organize combat forces is through a unified command structure wherein one single commander has command of all assigned theater assets.[32] To control

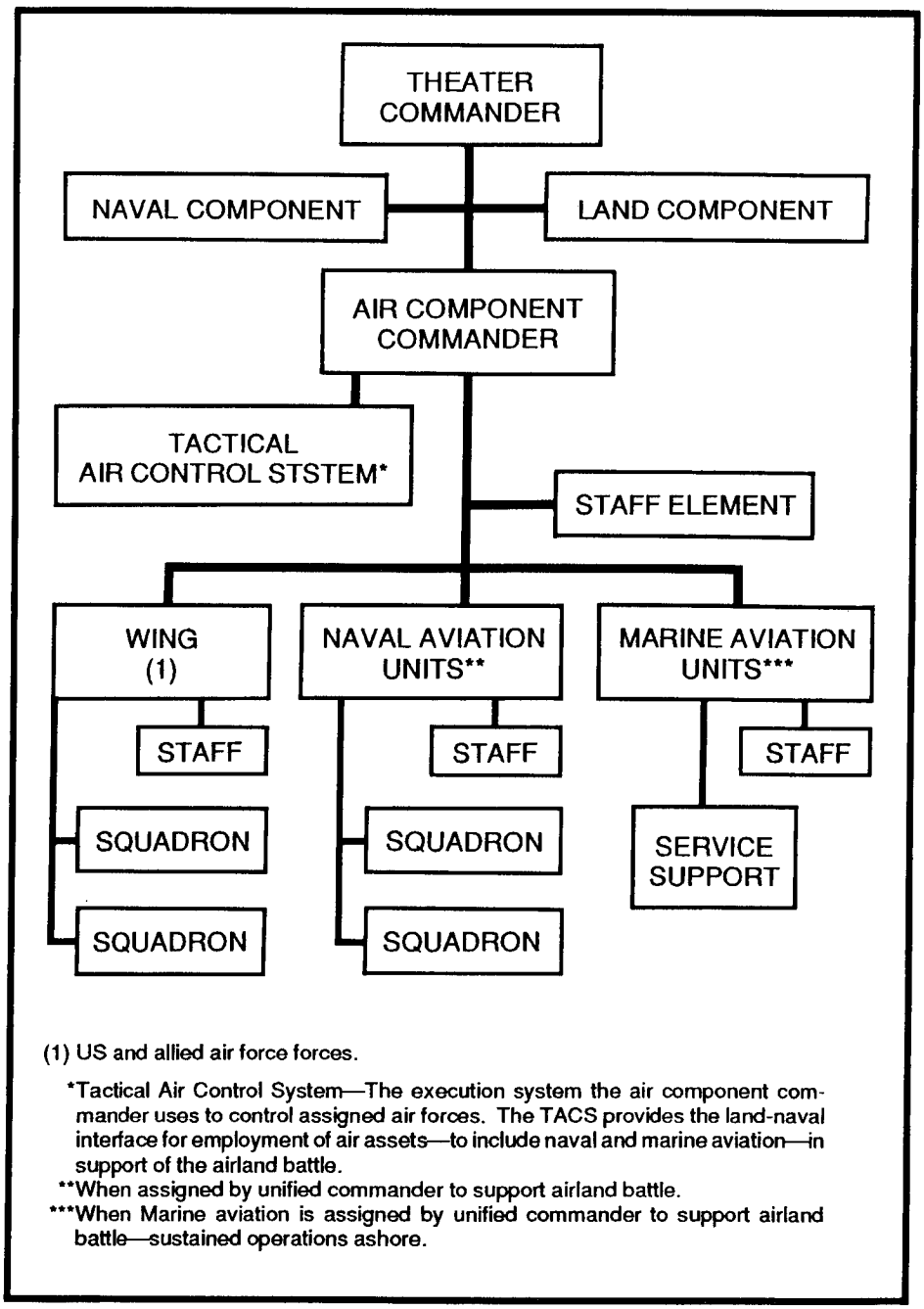

Figure 16. Notional Air Component Structure

these forces effectively, an integrated team—land, naval, and air—is employed to carry out the combat function of the theater-assigned mission. Forces are assigned to the theater command to accomplish combat missions based upon their ability to contribute to the overall effort.

When discussing organizational structures for airland combat, we tend to focus on systems to fight a war and on service orientation instead of on the structure itself and the delegation of responsibility by functional area. But if we focused on the command structure—joint and combined—and used a theater perspective, many of the roles and mission issues would never surface. A theater perspective is simply a joint and combined view of war fighting. It drives us toward a unified command structure where all land combat forces are employed under a single land component commander, and all air combat forces are employed under a single air component commander.

Joint and combined doctrines have evolved to state that combat forces are employed most effectively and efficiently by centralized control through decentralized execution. Centralized control permits concentrated combat power to be directed toward the primary objective and redirected in response to contingency requirements. This approach affords a more flexible use of the principles of war in directing combat forces. Decentralized execution permits the higher command echelons to establish objective priorities and to implement strategy while placing the responsibility for tactical and operational execution at the lower level. This allows the commander at the lower level to exploit opportunities that arise in support of the strategic plan. Planning is at the higher level. Centralized control and decentralized execution are the most economical utilization of limited resources.

To employ combat power effectively and efficiently, a single component commander for land, naval, and air forces must be given the authority and responsibility for employing theater-assigned assets.[33] The command structure must be simple and have clear and direct lines of authority. The structure for theater warfare is the unified command with three components—land, naval, and air. Future conflicts will not allow time to experiment with command arrangements.[34]

Figure 17 shows the three elements of the command structure for airland combat—land, naval, and air forces. This figure depicts how the components would work together under the unity of command principle. This structure is designed to work in a large theater war or in a low-intensity conflict. With this command structure in mind, we can now discuss the methods and organizational arrangements for conducting airland combat.

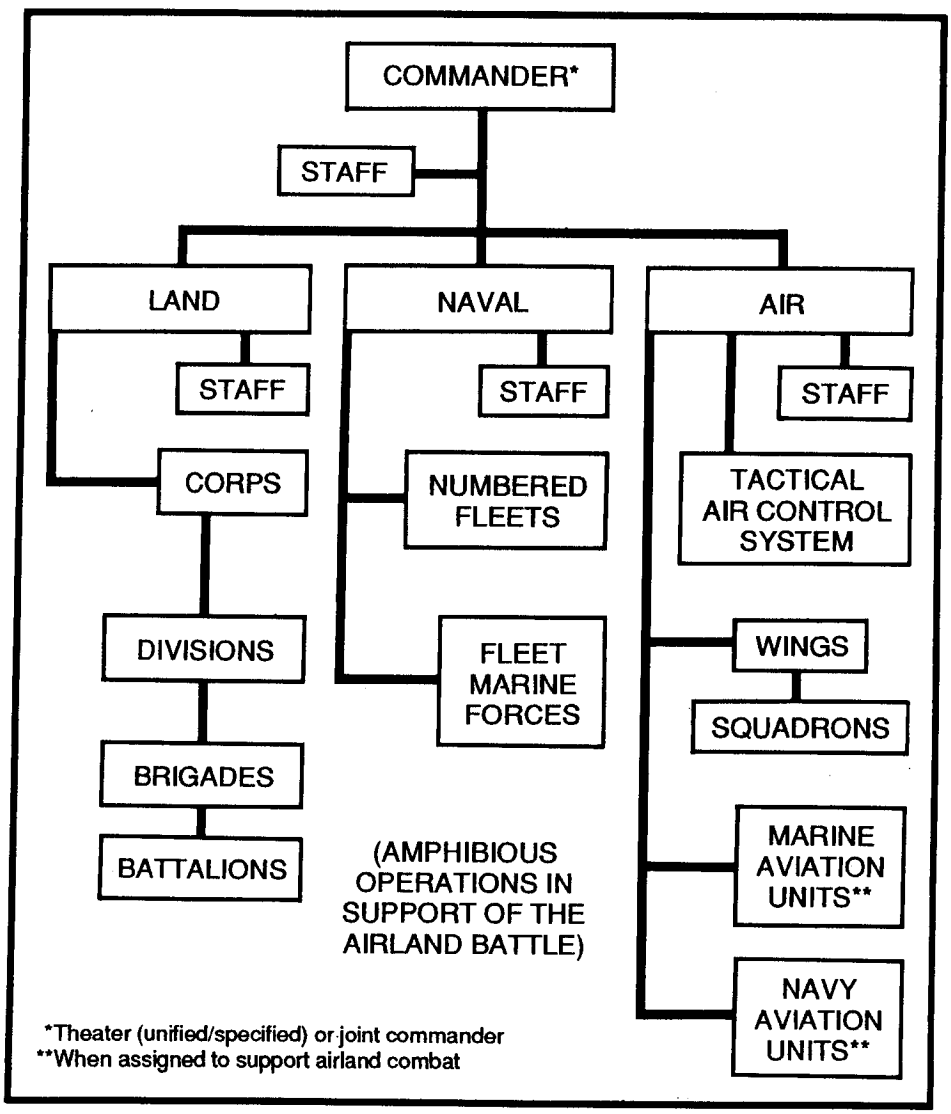

Figure 17. Command Structure for Airland Combat

Conduct of Operations

We see clearly that the activities characteristic of war may be split into two main categories: those that are merely preparation for war, and war proper. The same distinction must be made in theory as well. . . . The knowledge and skills involved in the preparation will be concerned with the creation, training, and maintenance of the fighting forces. . . . The theory of war proper on the other hand, is concerned with the use of these means, once they have been developed, for the purpose of war.

—Carl von Clausewitz

Airland combat operations must be approached from a joint perspective which requires us to look at war fighting from a unity of effort point of view.[35] Simply stated, we should employ our forces as an efficient team that is closely integrated. Unity of effort also requires that we hold aside service biases so that when we employ our forces the overall objectives of the theater commander are achieved.

For the Air Force this means placing all air forces under the air component commander. For the Marines and Navy this means placing all aviation assets under the air component commander when these assets are operating in sustained operations ashore in support of airland combat missions; and for the Marines it means that land combat units would come under the land component commander for sustained operations ashore. For the Army it means that air support is under the centralized control of the air component commander.

To make airland combat a reality requires a system that will integrate the tactical assets through a tactical control network. This network is called the Air Ground Operations System (AGOS).*

The AGOS is composed of the Army's Air Ground System (AAGS) and the Air Force's Tactical Air Control System (TACS). This system (the AGOS) provides the means to initiate, receive, process, and execute

* AGOS can also refer to the Air Ground Operations School. In this book AGOS refers to the tactical control system.

requests for air support and to disseminate information and intelligence produced by air means.[36]

In the joint and combined arena the command structure to fight wars is called the unified command system.[37] Within the unified structure there are components based upon the forces provided—for example, air forces within the air component, land forces comprising the land component, and naval forces making up the naval component. The air component commander is responsible for the execution of the air portion of the theater battle. The land and air component commanders together are responsible for the execution of the airland battle.

Under the US Army's AirLand Battle doctrine, targets are identified by the air and land side of the AGOS and then are programmed and/or planned to be destroyed, delayed, or disrupted by tactical air or land force organic assets. Since there will be more targets than assets to put against the targets, some adjudication must occur.[38]

The AAGS "is used for coordinating and integrating tactical air support with US Army ground operations." [39] The Air Force tactical air forces "are used in support of the Land Component Command (LCC)." [40] The TACS "begins at the air component level and extends through all operating (ground) echelons."[41] The TACS provides the organization and equipment necessary to coordinate air operations with the land forces and is used to conduct tactical air operations.

The method used to translate requests for tactical air support into operations is called the apportionment system. The component commanders make recommendations to the unified commander.[42] The unified commander takes these recommendations into account, makes his estimates, and then apportions the available assets among the air tasks—counterair, close air support (CAS), and air interdiction.[43] The apportionment is expressed as percentages (e.g., 40 percent for CAS) or as priorities (e.g., priority one is counterair). According to Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, "Air apportionment is based upon priorities established by the [commander] during consultation with the subordinate commanders and is designed to assure optimum distribution of limited assets which must perform a wide range of missions." [44]

The next step is the allocation of the assets.[45] The air component commander allocates the number of sorties of each kind of mission based upon the apportionment decision, availability of airframes, and sortie generation rate. Once the allocation has been made, the land component commander distributes his allocated close-air-support sorties to the subordinate land commanders.[46] The land component commander knows what sorties are available for each of the air tasks, including air reconnaissance, by reviewing the air tasking order which is published by the air component commander.

That is the way the system is supposed to work. The system described above had a single unified (or joint force) commander, at least two of the three components (air and land), and a method to execute the tasks—the air ground operations system which is composed of the Army's Air Ground Control System and the Tactical Air Control System. As long as the organization is designed with these elements, there are no major problems. The AirLand Battle doctrine, as envisioned by the Army, will function if there are equal levels of coordination between the Army and the Air Force. The Air Force employs its forces through the single manager for air—the air component commander—and all actions are coordinated at this level.[47] As long as the Army has a field army or army group—the land component commander—there are no coordination problems.[48]

So the system—the AGOS—must account for requirements of the land forces and the capability of the air forces. For the system to work, close coordination between the land and air components is required.*

Many people are involved in the target nomination and allocation process. It starts at the bottom—the battalion—and works up through the division and corps level. Once the corps has made its target list, in priority order, the corps commander can look at the scheme of maneuver and make a recommendation on targets that need to be attacked by tactical air.

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*The two components need to have over them comparable levels for coordination of tactical assets. This must be accomplished at the component level; for example, in NATO this would be the Allied Tactical Air Forces-Army Group Level. Without this level, the adjudication of competing needs would not be possible.[49] Once this coordination level has been established then the process of allocating tactical assets can begin.

The land component commander then takes the corps' priority target lists and makes a recommendation for targets to be struck; and, in consultation with the air component commander, comes up with a list of targets to be attacked by tactical air for each area of operation. The land and air component commanders provide their scheme of attack to the unified, combined, or joint task force commander, who in turn develops the apportionment plan. Based on this apportionment, the air component commander allocates tactical air to the air tasks to be performed. The inherent flexibility of tactical air allows the two component commanders to change targets as the battle develops, in response to the tactical situation.

Simple as it sounds, if the above is followed we will have the most effective and efficient method to employ tactical air assets on the modern battlefield. This method was combat tested in World War II, Korea, and Vietnam.[50] The system used by NATO and used in the Pacific is basically the same one described above, but modified to account for national systems.

Equally as important as coordination levels is synchronization. Synchronization is the integration of tactical assets into the land component commander's maneuver scheme. It is, however, directly related to levels of coordination. A subset of synchronization is the joint employment of air and land tactical assets on the battlefield (e.g., TR-1; Joint Suppression of Enemy Air Defense [JSEAD]; and the Joint Tactical Missile System).[51]

If we account for the coequal levels of coordination so that there is an avenue to adjudicate competing corps needs on the battlefield for scarce assets, the problem of synchronization will be solved. This is accomplished by having the system to ensure that close air support, air interdiction—to include battlefield air interdiction—and related tactical air missions, and organic Army assets are integrated to accomplish the theater objectives.[52]

On the land side we have the Army's Air Ground Operations System.[53]

> This system includes the personnel, equipment, procedures, and techniques comprising the US Army's air-ground system to initiate, to receive, to process, and to execute requests for air support, and to disseminate information and intelligence produced by air means . . . (and it) functions as a single entity in planning, coordinating, and integrating air support operations with ground operations.[54]

The system begins at the highest field echelon—the field army—and extends down through all echelons.

Within the AAGS are Air Force liaison officers. The Air Support Operations Center (ASOC) is a mobile, air-transportable facility designed to operate with a tactical operations center—corps or division—and functions as the forward element of the Air Force's tactical air control center in the operational command channel of the TACS. The primary function of the ASOC is to "assist in executing the air operations order to provide [US Army] forces the tactical air support required [and] is collocated with the supporting [Army] unit tactical operations center."[55]

Also within the AAGS are naval liaison officers. Naval aviation, which includes both Navy and Marine air assets, can contribute to the airland campaign. When employed in sustained operations ashore, naval aviation is controlled through the US Navy-US Marine Corps command and control system.* The US Marine Corps' tactical air control party is organic to the Marine Corps and is attached to each infantry element.

The Army maintains a battlefield coordination element (BCE) at the air component commander's tactical air control center. This element monitors and interprets the land battle situation for the tactical air control center. The BCE also provides the necessary interface for the exchange of current intelligence and operational information. In order for the US Army to synchronize land operations effectively, tactical air support must be planned and employed in concert with the land component commander's scheme of maneuver. The land component commander uses the BCE to represent his interests at the tactical air control center. The BCE is a part of the land component commander's staff and processes the land force's requests for tactical air support,

*I should point out that this USMC proposal is counter to what I propose in this book.

monitors and interprets the land battle situation for the tactical air control center, and provides the necessary interface for the exchange of current intelligence and operational data.[56]

Figure 18 depicts the relationship between the land and air component command and control and coordination with tactical air and the theater army. Figure 19 shows the relationship between the tactical air control systems and the Army's Air Ground Operations System.

On the air side we have the tactical air control system.[57] It is composed of the operational elements required to plan, control, and direct air operations and is normally collocated with the air component commander. The tactical air control center issues the tasking order, monitors mission execution, adjusts and readjusts mission priorities,

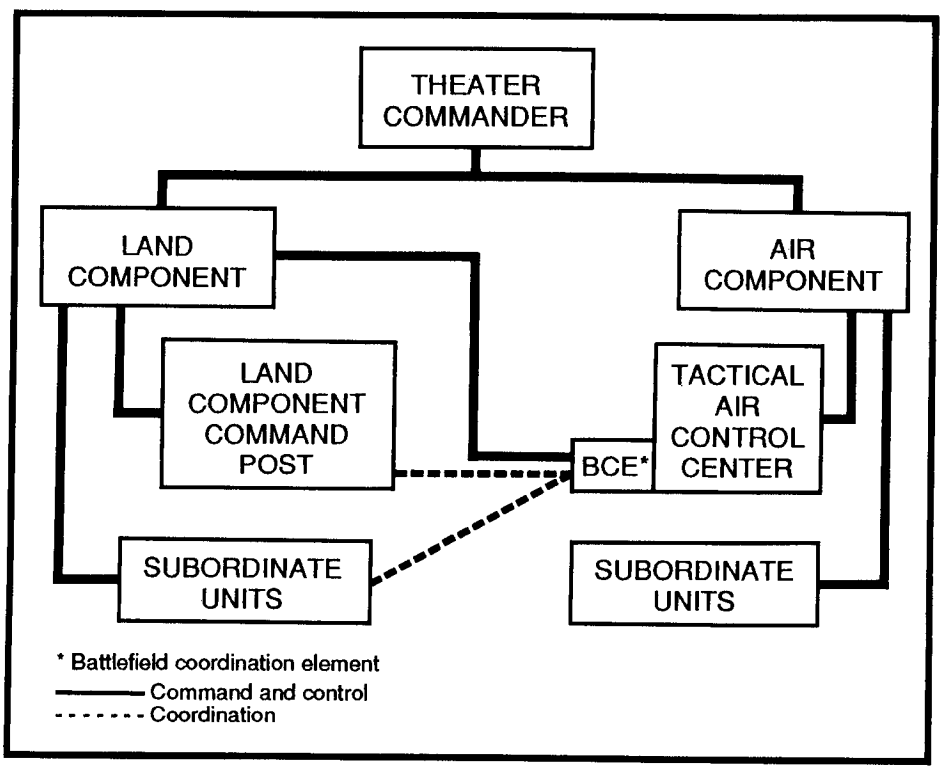

Figure 18. Command, Control, Coordination

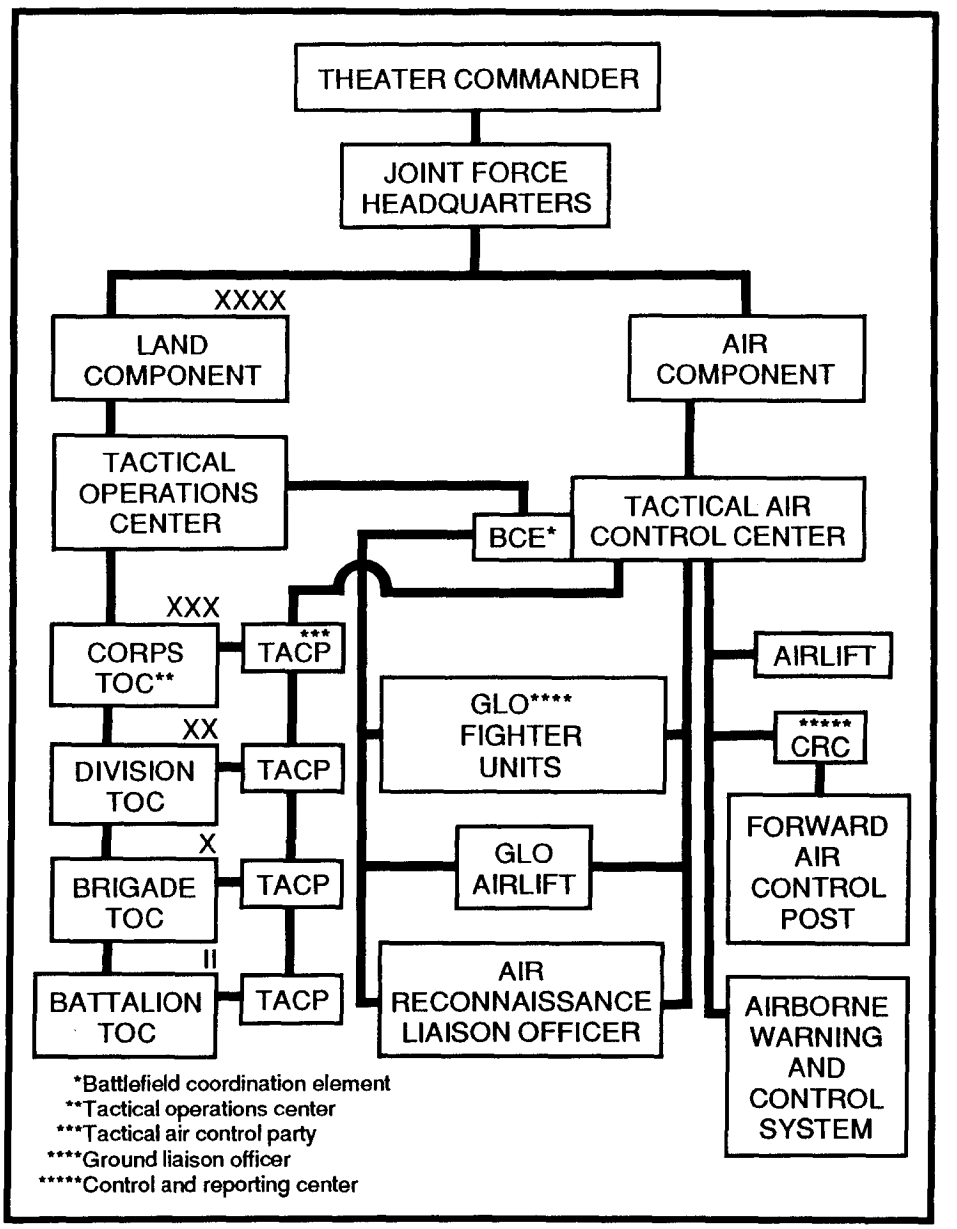

Figure 19. Tactical Air Control Systems and Army Air Ground System Interface

and issues threat warnings.[58] Within the tactical air control center is an airlift control center that provides centralized direction for all airlift forces. Additionally, a control and reporting center is used for the decentralized execution of air defense and airspace control.[59]

To extend the coverage provided by the control and reporting posts—which provide radar surveillance and control within assigned areas of responsibility and report to the control and reporting center—forward air control posts are deployed into forward areas. Also, airborne warning and control systems (e.g., the E-3A aircraft) are the airborne extensions of the ground-based sensors.

Stationed with Army units are tactical air control parties. They are normally located with corps, division, brigade, and battalion units. The tactical air control party provides the interface between the land units and the air unit providing tactical air support for airland combat. Figure 20 depicts the elements of the tactical air control system.

Now combining the two systems—tactical air support system and the Army's air ground system—we see how the interface between the two is accomplished (fig. 20). With a system to accomplish airland combat, let us turn our attention to the concept of operation for the airland battle.

To meet and counter enemy attacks, land and air forces are employed to achieve the theater commander's objectives. "Effective reconnaissance, surveillance, and warning systems are essential to decipher enemy attack preparation indicators to allow air and land commanders to direct the right weapons against the right targets at the right time."[60]

The air forces' contribution to the airland campaign is in the mission areas of counterair, close air support, reconnaissance, and interdiction. Counterair protects friendly forces from hostile air attacks and increases freedom of action for friendly ground and air forces. Close air support provides firepower against enemy forces which are engaged with or preparing to engage friendly ground forces. Interdiction against follow-on echelons is "inseparable in purpose from close air support."[61] Interdiction against deeper targets indirectly supports the airland battle. Figure 21 shows this relationship.

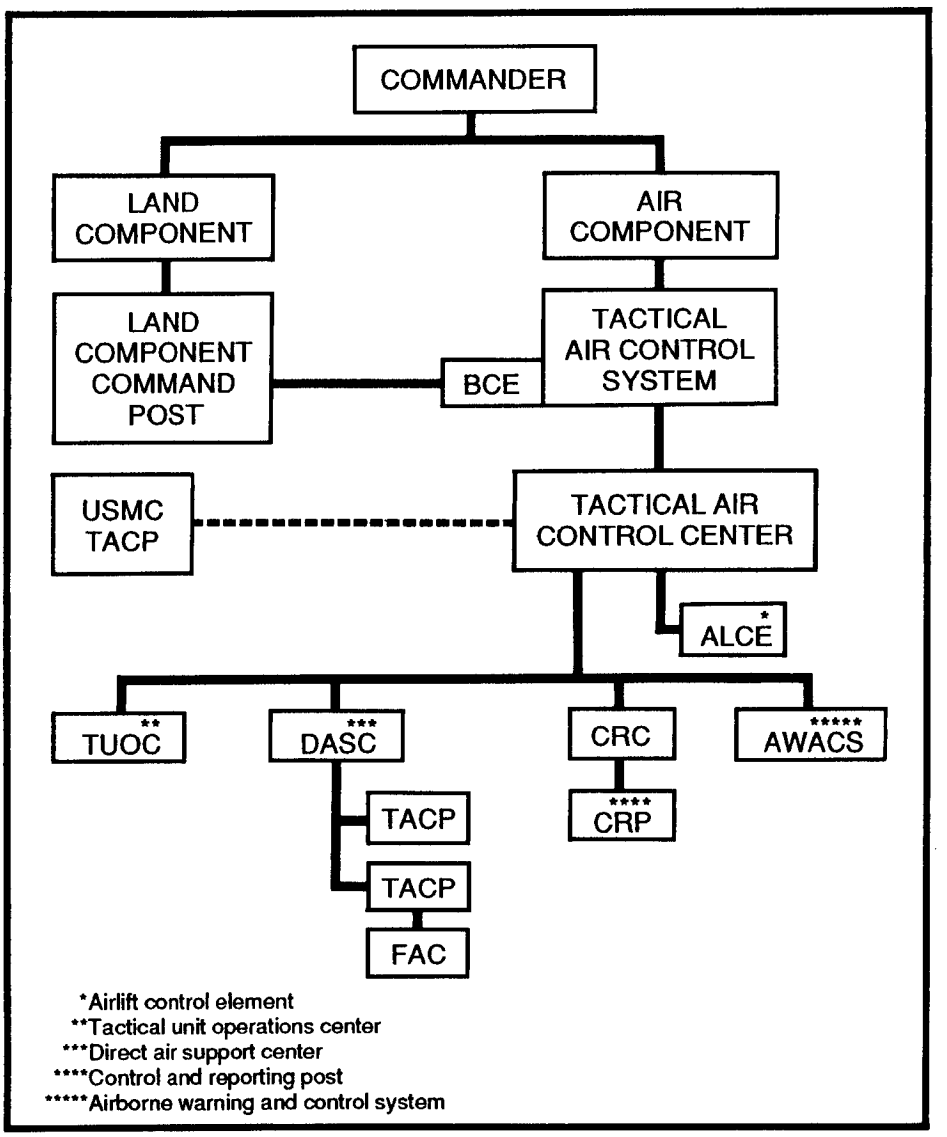

Figure 20. Tactical Air Control System

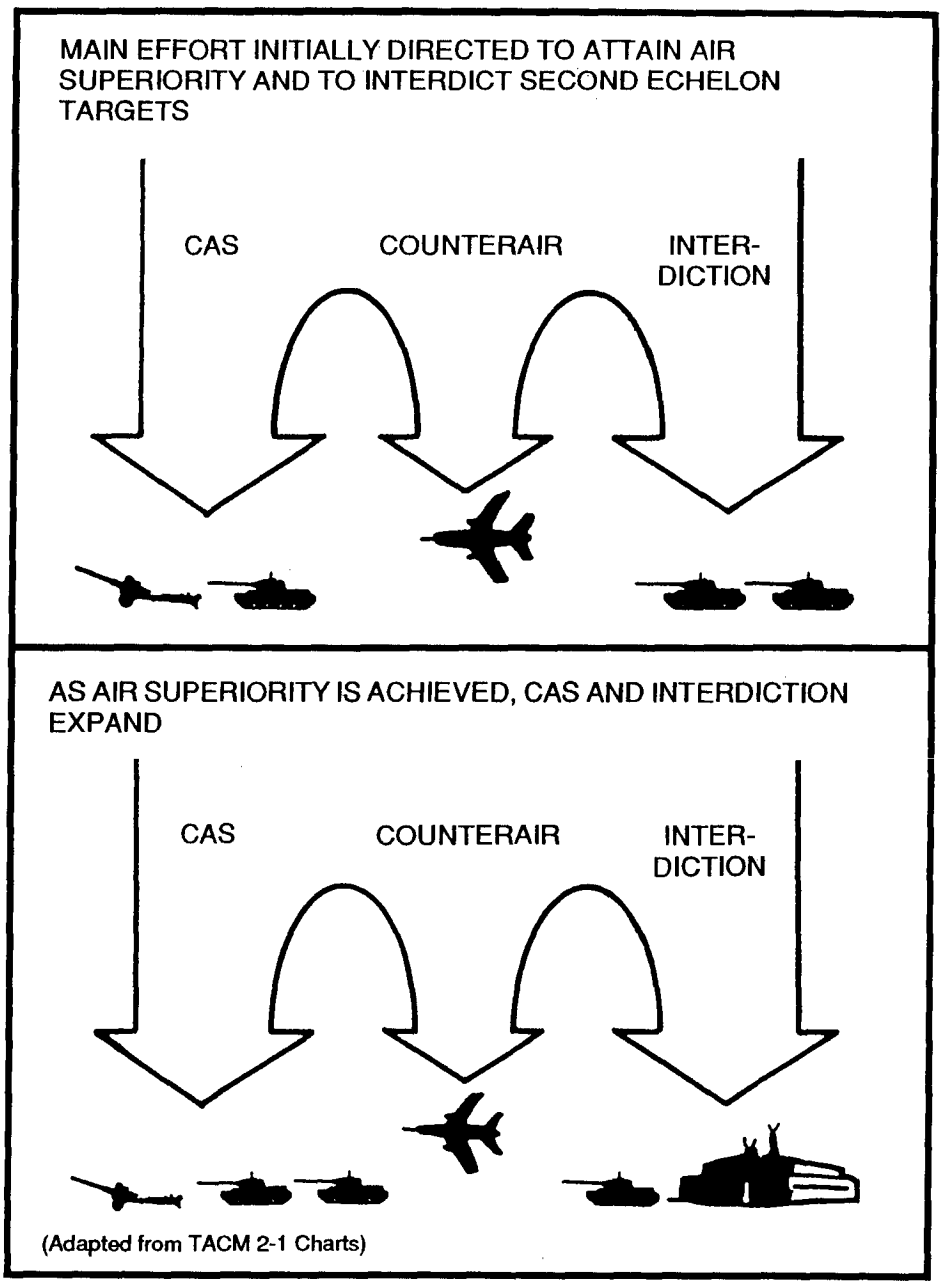

Figure 21. Relationship of Air Missions. (This figure shows relationships, not a predetermined apportionment.)

The Army's contribution in the AirLand Battle is in the area of combined arms,* and includes infantry, mechanized infantry, armor, armored cavalry, field artillery, air defense artillery, aviation units (attack helicopters), and combat support units. The effects of the combined arms may be thought of as complementary and reinforcing. Weapons or arms complement each other by achieving jointly an effect none can obtain separately.[62] Figure 22 shows the planning lines used by the Army in the AirLand Battle and shows how the combined arms come together on the battlefield.

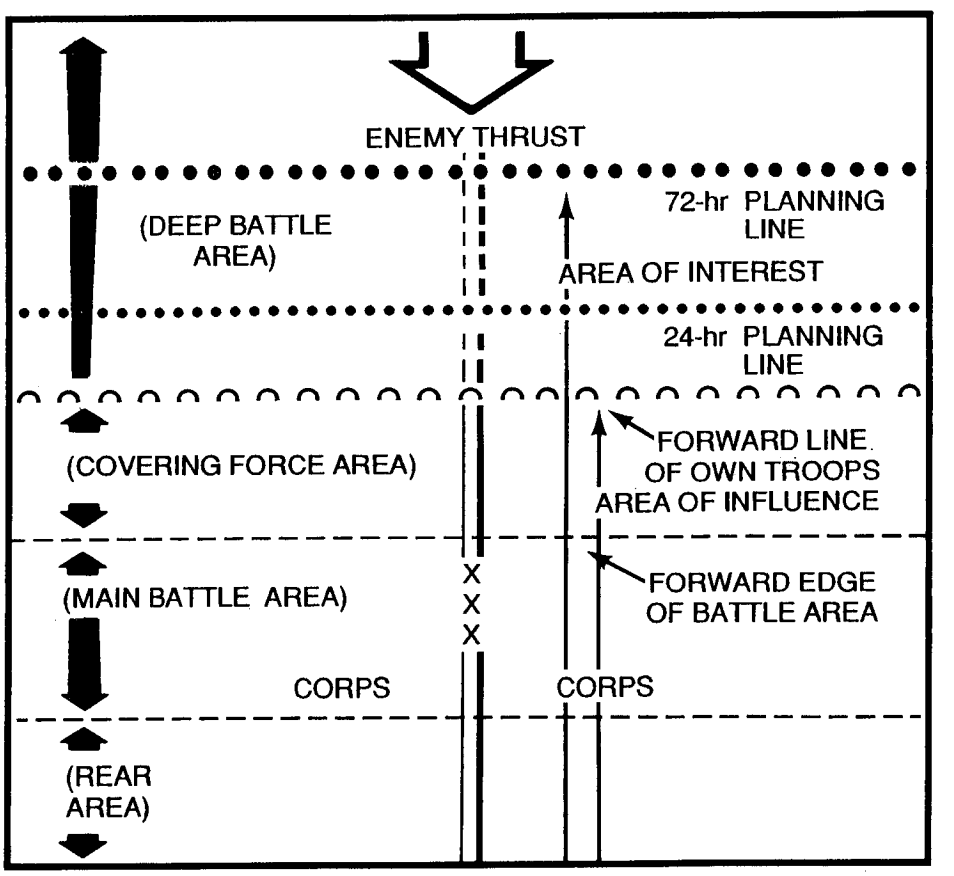

Figure 22. Army Battle Planning Lines

*Combined arms refers to the integration of two or more army elements in mutual support (e.g., armor and mechanized units).

The naval contribution to the airland battle is essentially aviation assets—Navy and Marine tactical air—and Marine ground combat units. Their missions are the same as those of the Air Force and Army in airland combat.

To accomplish airland combat requires the coordinated effort of all service-assigned forces. Figure 23 depicts how air missions are used in support of the AirLand Battle.

Each service-assigned force contributes directly and indirectly to the overall mission of the theater command. To win we must fight campaigns and battles which coordinate the actions of all available military forces in pursuit of common objectives. Exploiting the full potential of military forces requires integrating the combat potential of these forces in a way whereby the enemy is attacked, in depth, to the full extent of his formations. In all types of operations, our forces must be prepared to fight to preserve and exploit the initiative, to attack in depth, and to synchronize all effects to obtain the common theater objective.

Our concept of operations for airland combat must account for the unique contributions of each of the services. We must avoid duplication and integrate our forces into a coherent fighting team. At the top, the commander must have a clear understanding of the developing battle to direct forces toward the theater objective. The component commanders must translate this guidance into action by directing the assigned forces to accomplish the objective. The command structure must be uncomplicated to allow effective and rapid execution of missions. To assist the component commanders there is a control system—the component's tactical control network described above.

Above this must be an organization that allows the military forces, when directed by the national command authorities, to be employed at any level of conflict. Figure 24 graphically shows this spectrum of conflict.

The organization this book describes works at any level on the spectrum of conflict—from low-intensity to high-intensity. The unified command structure does not necessarily mean large forces. The forces must be tailored to meet the threat. Potential danger in Europe and the

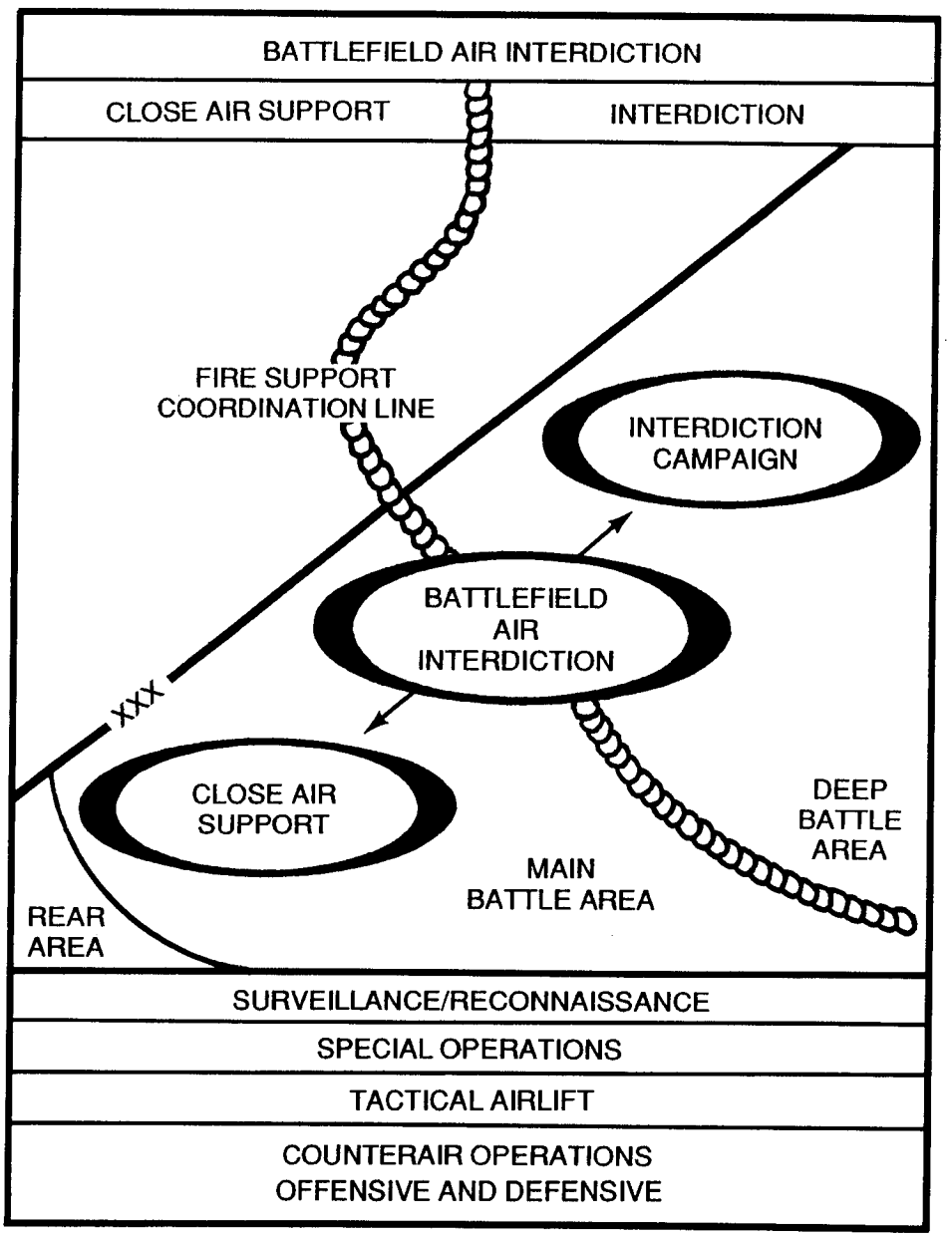

Figure 23. Air Missions in Support of AirLand Battle

0	1	2	3	4	5	6	7
NORMAL DIPLOMACY	PEACE-KEEPING	SUBVERSION, SABOTAGE, TERRORISM, AND COUPS	INSURGENCY	LOW-INTENSITY CONVENTIONAL WARFARE	MIDINTENSITY CONVENTIONAL WARFARE AND UW*	HIGH-INTENSITY CONVENTIONAL WARFARE AND UW	THEATER NUCLEAR WARFARE TO STRATEGIC NUCLEAR WARFARE AND UW
	RANGE OF LOW-INTENSITY CONFLICT				MIDINTENSITY CONFLICT	RANGE OF HIGH-INTENSITY CONFLICT	
	* Unconventional warfare						

Figure 24. Spectrum of Conflict

Pacific requires large forces. However, to fight a low-intensity conflict, small forces or even uniservice forces might be more appropriate than having all four services participate in the command structure. Unity of command does not mean that a military operation must have Army, Navy, Air Force, and Marine forces assigned to that operation. That is, each service does not have to have a "piece of the action." Limited conflict or small scale operations may not require Army and Marine land combat forces backed up by the Air Force. A Marine air/ground task force could be more appropriate than say half of the 82d Airborne Division plus a Marine amphibious brigade and a US Air Force fighter wing. The point is that forces assigned to the unified (joint force) commander must be appropriate to the task and not based on jointness—all services participating.

Notes

1. Adapted from AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 16 March 1984; FM 100-5, *Operations*, 20 August 1982; and Joint Publication 0-2, *Unified Action Armed Forces (UNAAF)*, December 1986. The principles of war are interrelated and interacting elements which help provide a better understanding of warfare. The US Air Force lists the principles of war as objective, offensive, mass and economy of force, surprise, security, unity of effort, maneuver, simplicity, timing and tempo, logistics, and cohesion. The US Army lists the principles of war as unity of command, objective, offensive, mass, economy of force, surprise, security, maneuver, and simplicity.

2. Joint Pub 0-2, discusses how to establish command structures based on these principles.

3. Doctrine Information Publication No. 12, *Command Relationship* (Washington, D.C.: Headquarters USAF/XOXID, June 1984), 1.

4. Joint Pub 0-2, 3-7, 3-8, 3-14, and 3-15.

5. ATP 33(A), *NATO Tactical Air Doctrine* (Brussels, Belgium: North Atlantic Treaty Organization [NATO], May 1979), 2-3.

6. JCS Memorandum 2502/645-1 "NATO Tactical Air Doctrine," 20 February 1975, 2.

7. Joint Pub 3-01.2, formerly JCS Pub 26, *Joint Doctrine for Theater Counterair Operations (From Overseas Land Areas)*, 1 April 1986, B-5.

8. See Col Thomas A. Cardwell, *Command Structure for Theater Warfare: The Quest for Unity of Command* (Maxwell AFB, Ala.: Air University Press, September 1984), 173.

9. Much of the material contained in this section came from a discussion with Gen William W. Momyer, USAF, Retired. Additionally, discussions with Gen Donn A. Starry, USA, Retired; Gen Jerome F. O'Malley, USAF (now deceased); and Lt Gen William R. Richardson, USA, Retired; support this data. Interview with General Momyer during the period 1977 to 1991; with General O'Malley during the period 1979 to 1983; with General Starry held at MacDill AFB, Fla., on 3 December 1981; and with General Richardson, USA, held at the Pentagon, Washington, D.C., on 15 October 1981. Complete interviews contained in Cardwell, *Command Structure*, 99–105, 137–43, and 169–70.

10. Gen Bernard W. Rogers, USA, "Follow-On Force Attack (FOFA): Myths and Realities," *NATO Review* 32, no. 6 (December 1984): 1–9.

11. Ibid., 2.

12. Gen Donn A. Starry, interview with author, held at MacDill AFB, Fla., 3 December 1981. See also his article "Extending the Battlefield," *Military Review*, March 1981, 31–50.

13. Adapted from the definition of air interdiction taken from AFM 1-1, 3-3.

14. FOFA, a phrase coined by (then SACEUR) General Rogers in 1982, entails the delay, disruption, and destruction of enemy follow-on forces prior to their contact with friendlies in order to keep the enemy's force manageable at the forward line of own troops (FLOT). Gen John Galvin's proponency for FOFA is as strong as his predecessors'. Numerous FOFA-related initiatives are under way in Office of the Secretary of Defense (OSD), the services, United States European Command (USEUCOM), and NATO. FOFA is a subconcept of SACEUR's Conceptual Military Framework. FOFA, as defined by SHAPE, is equivalent to interdiction and so is not a new mission. It expands upon current interdiction capabilities and focuses on time-sensitive, mobile, hard targets. However, the new aspects of FOFA are its emphasis on enhanced technology and the intrusion of the Army into the Air Force's domain. The Air Force owns most of the assets (sensors, C^3I, weapons) which can interdict follow-on forces. It also has a viable, in-place, apportionment/allocation/execution mechanism (commander, Allied Air Forces Central Europe (NATO) [COMAAFCE], Allied Tactical Air Force (NATO) [ATAF], Allied Tactical Operations Center (NATO) [ATOC], Wing Operations Center [WOC]). Until recently, US Air Force involvement in FOFA was negligible. There has been a major effort by "blue-suiters" to get FOFA back on track. Significant events include: (1) circulation of a JCS (USEUCOM) FOFA doctrine document to services and the CINCs; (2) the Tactical Air Force (TAF), now called Combat Air Forces (CAF), and Air Staff inputs to the USEUCOM document were consolidated at Langley AFB in late October 1987 (TAF position: FOFA is interdiction. The fire support coordination line should be the single delineating boundary between the ground and air component areas of responsibility, and interdiction of follow-on forces must be integrated/orchestrated by the air commander), and (3) creation of a USEUCOM FOFA working

group and establishment of a six-month initiative to implement FOFA in theater. The group first met on 27 October 1987.

15. Lt Gen W. H. Nutting, USA, "Nutting: Stand Fast," *Newsweek*, 6 June 1983, 23.

16. Organization of the Joint Chiefs of Staff, *United States Military Posture FY 85* (Washington, D.C.: Government Printing Office, 1984), 8.

17. National command authorities (NCA) are the president and the secretary of defense or their duly deputized alternates or successors. See Joint Pub 0-2, 1-2.

18. Joint Pub 0-2, 1-2.

19. Ibid., 1-18, and 3-36 through 3-42.

20. Ibid., 3-36.

21. All of the services agreed upon the composition of the joint staff. See Cardwell, *Command Structure*, 65, 78, 99–144.

22. Joint Pub 0-2 and DOD Directive 5100.1 in the discussion of the functions of the United States Marine Corps, state that "these functions do not contemplate the creation of a second land army" (Joint Pub 0-2, 2-28 and DOD Directive 5100.1, *Functions of the Department of Defense and Its Major Components*, 25 September 1987), 9.

23. This would depend on the mission assigned to the Marine forces. There are scenarios where a Marine component could be required. If the Marine Corps is the only service assigned to the theater of operations, or the Marine combined forces are the initial combat unit in a theater of operations, a Marine component would be required. However, upon arrival of other service forces, the Marine component would be integrated into the land, naval, and air component as appropriate.

24. Maj Gen Norman J. Anderson, USMC, Retired, former commanding general of the 1st Marine Air Wing and deputy commander for Air III Marine Amphibious Force (MAF) in Vietnam in 1967, does not believe in placing Marine air under a single air component commander. He states, in reference to the Marine Corps maintaining air assets in I Corps and the contention that the 1st Military Airlift Wing divided its air assets between the two Marine divisions regardless of the ground situation: "Nothing could be further from the truth than this spurious charge of inflexibility. Marine Corps sorties were applied when needed most and frequently to other than Marine Corps units." He further states: "It was of such poppycock, however, that the infamous 'single management' was born and adopted." Maj Gen Norman J. Anderson, "Short Shrift for Marine Air," *Marine Corps Gazette*, May 1981, 87. General Anderson believes that history has shown that the best way to apply tactical air power is from the corps (or MAGTF, in the case of the Marines) level, not from the air component level (see page 88 of his article).

25. Ibid.; Joint Pub 0-2, 3-25.

26. Ibid., 3-36.

27. Ibid., 3-24 through 3-28. Joint Pub 0-2 provides specific guidance on command responsibilities for components.

28. Unified as used here, and in the other component commands, refers to combined command structure also.

29. Field Manual (FM) 100-15 (Test), *Larger Unit Operations*, March 1974, 3-1 through 3-3.

30. Correspondence with Gen William W. Momyer, USAF, Retired, during the period September 1981 to January 1991. The essence of the correspondence, and subsequent telephone conversations with General Momyer, on the subject of rationale for placing all air under the air component commander, is as follows: within the theater, there should be an air, a ground, and a sea component. These are *generic* commands which control all combat operations in the media of the air, ground, and sea. There must be an overall component command structure to assure that those forces are directed in a coherent, coordinated, and positive manner. There is no place for two similar forces operating outside a single authority for that type of mission.

31. Tactical Air Command Manual (TACM) 2-1, *Tactical Air Operations*, 15 April 1978, 11-1 through 11-7, and 2-19.

32. Ibid. See also Gen William C. Westmoreland, *A Soldier Reports* (New York: Doubleday, 1967); Gen William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: US Government Printing Office, 1979); Matthew B. Ridgway, *The Korean War* (Garden City, N.Y.: Doubleday & Co., 1967); and Dwight D. Eisenhower, *Crusade in Europe* (Garden City, N.Y.: Doubleday & Co., 1948) for discussion. JCS Pub 0-2 and allied doctrine publications also recommend this command structure.

33. Gen David C. Jones, USAF, chairman of the Joint Chiefs of Staff, Maxwell AFB, Ala., interview with author, 29 January 1982. When asked his view on the unified component command structure in light of the ongoing JCS discussion over command and control of US Marine Corps forces during sustained operations ashore, General Jones said:

> JCS Pub 0-2 provides clear guidance on establishing these command relationships. It is a unified structure with land, sea, and air components to carry out the assigned mission. As to the discussions over Marine forces used during sustained operations ashore, it would depend upon where these forces are employed. I could see where they might be employed separately and where they might be employed under one of the other components. You must remember that the components are not service oriented but are generic terms to describe a function to be performed—land operations, sea operations, or air operations. The Marine forces could be the land component if they have the majority of the forces. As you are well aware, having worked this issue while on the Air Staff, the discussions boil down to doctrinal issues. The separate services guard their roles and missions very closely. This is what causes the discussions. Anyway, we must take a more joint view when debating these type issues to arrive at a command structure for the theater war.

Quote from General Jones's personal diary. See also Joint Pub 0-2, par. 3-24 to 3-28.

34. In developing the proposed command structure, the author studied some 20 different models before arriving at the single unified command structure. Command structure variations are possible depending upon the scenario. For example, a case could be made for placing all close combat air assets—both fixed and rotary wing—under a theater commander with no land or air component; that is, a subordinate

command. This would be used only in a limited—both in time and effort—war scenario. See Joint Pub 0-2's discussion on joint task forces. Another case could be made for placing close-air-support air assets directly under the land component or ground commander—as the Marine Corps does with its Marine Air/Ground Task Force (MAGTF) arrangement. However, given the constraints in purchasing assets to accomplish not only the close combat functions but other air missions of the Air Force, Navy, Army, and Marine Corps, the services cannot afford to place unlimited assets in this single role. For example, multirole aircraft have been developed for the Air Force, Navy, and Marine Corps—the F-4 being the best example—not only to accomplish close air support but also to provide fleet defense, battlefield air interdiction, air defense, and air interdiction. Specialized aircraft, such as the AV-8 or A-10, although limited in number, have been developed to accomplish the close-air-support role for ground combat forces. However, there are not enough specialized close-combat air assets to dedicate some to each individual corps. Therefore, we cannot afford this option. One could argue that the Marine Corps force package is structured in this manner and, therefore, provides a model for a theater command structure. True, but the close-air-support aviation assets are dedicated to the Marine Corps to make up for its light firepower. Since the primary mission of the US Marine Corps is amphibious operations where a highly mobile, light firepower force is required, the Marine Corps needs aircraft assigned to the MAGTF to perform this function.

35. Joint Pub 1-02 defines unity of effort as the concept of our military establishment as an efficient team of land, naval, and air forces based on the principle that effective utilization of the nation's military power requires that the efforts of the separate military services be closely integrated. Unity of effort among the services at the national level is obtained by the authority of the president and secretary of defense. It is exercised through the secretaries of the military departments and by the strategic planning and direction of the Joint Chiefs of Staff, and by common, joint, and cross-servicing forces by the military departments. Unity of effort among service forces assigned to unified or specified commands is achieved by exercise of operational command, by adherence to common strategic plans and directives, and by sound operational and administrative command organizations. Unity of effort also provides for the relationship between the JCS and the military departments and services charged with preparing and providing forces for the unified and specified commands. Unity of effort is founded upon the principle of unity of command. Joint Pub 0-2, 1-1.

Gen John W. Vessey, USA, Retired, while chairman of the Joint Chiefs of Staff, expressed the view that the concept of unity of command is a fundamental principle of the armed forces and is central to the structure of our operational forces. Unity of command is a principle which is a guideline for effective action, and it was an important motivation for President Eisenhower when he proposed the legislation which led to the last major reorganization of the Department of Defense. The Joint

Chiefs of Staff are the secretary of defense's military staff to advise both the secretary and the president on command structure and arrangements which provide for the most effective defense of the nation. Joint Pub 0-2 specifically sets forth principles, doctrines, and functions governing the activities of US forces in joint operations. Source: Response to Senators Sam Nunn and Barry Goldwater on the question of unity of command, 19 April 1985, and reported in "DOD Leaders Defend Command Structure, but Joint Commanders Ask for More Say," *Armed Forces Journal International*, June 1985, 26.

36. Field Circular (FC) 100-26, *Air-Ground Operations*, 31 July 1984, 2-1.

37. Joint forces are forces of two or more services, while combined forces are forces of two or more nations—JCS Pub 1, *Department of Defense Dictionary of Military and Associated Terms*, 1 April 1984, 76 and 200. Joint Pub 0-2 specifies how we will fight and provides the command structure to support our combat forces.

38. The AirLand Battle is a joint battle—targets will appear that are of interest only to the air or land side, and targets will appear that are of joint interest.

39. FC 100-26, 2-3. This field circular further states that the Army's Air-Ground System "begins at the highest field echelon (normally field army or corps) and extends through all echelons down to maneuver battalion."

40. Ibid., 2-2.

41. Ibid., 2-6.

42. The joint forces commander could also make recommendations. The term *unified commander*, for purposes of this book, is used to also mean the joint force commander.

43. JCS Pub 1, 32.

44. Ibid.

45. Allocation is the translation of the apportionment into total numbers of sorties by aircraft type available for each operation/task. JCS Pub 1, 24.

46. Ibid.; FC 100-26, 3-4.

47. Col Thomas A. Cardwell III, USAF, "Managing Theater Air Assets," *Military Review*, May 1983, 40–45, describes the single manager for air concept.

48. A problem arose when the Army developed the BCE to function as the coordination level with the air component commander. The head of the BCE is a colonel, while the air component commander is a general officer.

49. The problem is the same as with a BCE headed by a colonel and the air component headed by a general officer.

50. *The Single Manager Problem: The Creation of an Operational Control System for US Tactical Air in I Corps of South Vietnam during 1968* (Washington, D.C.: JCS Historical Division, July 1976), previously classified, declassified by SM-197-81, 20 March 1981. For a discussion on how the system worked in Vietnam, see Momyer, *Air Power*, 82, and Westmoreland, 335–40.

51. Much work has been done in this area by TAC and TRADOC and by the Army and Air Staffs. Examples include the study on Joint Attack of the Second Echelon

(J-SAK) and the ongoing work on the battlefield air interdiction initiatives. Also, the 31 joint war-fighting initiatives on such subjects as night combat, close air support, theater interdiction system, intratheater airlift, and so on, are helping to solve this synchronization issue.

52. Having been on both sides—operational and staff—I make this point only to show that we can delay decisions or force action depending upon the objective. At times it is useful to employ these tactics to accomplish the particular objective—especially when the issue is "too hard to do." However, now is the time to get the system right, and by jointly working the issue and taking field inputs into account we will solve the issue. As a personal footnote, I had the opportunity to work this concept from its inception in 1977—some 15 years now. I have noticed a very real effort being exerted by staff officers to make the system work. It is refreshing to see a spirit of cooperation and a sense of jointness in our officers today struggling to balance individual service needs and joint war-fighting requirements. Also, the Persian Gulf war points out how successful we can be when we organize our forces along the lines of naval, air, and land components.

53. FC 100-26, chapter 2, "Organization of the Air-Ground Operations System," details how the Army system works, 2-2 through 2-30.

54. Ibid., 2-1.

55. Ibid., 2-11.

56. FM 100-16-1, *Theater Army, Army Group, and Field Army Operations*, 18 December 1984, 5-28. See also Capt Thomas A. Owen, USA, "The Battlefield Coordination Element: The Key to AirLand Synchronization," *AirLand Bulletin*, no. 85-4, 31 December 1985, TAC-TRADOC ALFA, 20–23.

57. TACM 2-1, details the tactical air control system.

58. Ibid., 3-9.

59. Ibid., 3-11 and 3-12.

60. Ibid., 4-1.

61. Ibid.

62. FM 100-5, 7-3, 7-4.

Chapter 4

Summary

We are always looking for ways to improve our capability to respond to any contingency.

—Gen Jerome F. O'Malley

The organizational structure for airland combat proposed in this book is based on lessons learned from past conflicts and on the broad guidance contained in service and joint publications. The focus is on the air contribution to the airland battle as this area is the most discussed aspect of recent warfare.

The structure, organization, doctrine, and procedures to accomplish airland combat must be based on the principle of unity of effort. That is, the principle of integrating the capabilities of the service-provided forces into a team operating for a common objective. The command structure and organization proposed in this book to accomplish airland combat is based on this principle of unity of effort.

The organization for airland combat must be kept simple so as not to complicate the coordination process of applying land and air combat assets. This command structure has one overall commander who employs assigned assets through three component commanders—one for naval, one for air, and one for land assets. The proposed airland combat organization accounts for the unique characteristics of the services. These capabilities are blended together to form a coherent war-fighting organization.

Lt Gen John H. Cushman has observed that "the way the US military establishment is organized makes difficult the writing of useful authoritative operational guidance for . . . US forces engaged in joint

operations."[1] This is because each service writes its own doctrine and the services are responsible for the preparation of forces, but they are not responsible for their wartime operations. These operations are the responsibility of the joint force commander and are *shared* by a joint, and in some cases combined, staff composed of two or more services or nations. The chain of command does not include the service chiefs of staff who are charged with providing forces for the combatant command. However, recent initiatives in the US armed forces have attempted to reverse this trend. The Joint Chiefs of Staff started a pilot program to develop joint doctrine. This program was called the Joint Doctrine Development Program.*

Also NATO, through its Allied Tactical Publications (e.g., ATP 27B, *Offensive Air Support Operations*), has published doctrine and procedures for combined operations, and in the Pacific the Air Standardization Coordinating Committee (ASCC) has published doctrine for combined operations (e.g., Air Standard 45/3, "Tactical Air Doctrine").

I have chosen JCS Pub 26, which has been renumbered to Joint Pub 3-01.2, to illustrate the problems we face in developing joint doctrine. (These same problems are also found in developing combined doctrine.) Before discussing these problems, let us briefly review the contents of Joint Pub 3-01.2.

In 1986 the services agreed to joint doctrine for the employment of air assets in counterair operations from overseas land areas (published in Joint Pub 3-01.2).[2] The aim of this publication is to issue doctrine for the planning and employment of joint forces in theater counterair operations. This directive applies to US military forces that can be used by the joint force commander in conducting air operations to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces in overseas land areas.[3]

The objective of counterair operations is to gain control of the air environment and protect the force. It is up to the joint force commander

*The JCS established this pilot program to allow various unified commanders to develop doctrine in specific areas. For example, commander in chief European Command has the responsibility for developing joint doctrine for the attack of follow-on forces.

to see that the forces are capable of achieving sufficient air superiority to ensure freedom of action for critical operations and protection of key assets.[4] Joint Pub 3-01.2 says that "Counterair operations should consider, as a minimum," the fundamental principles of concentration of force, economy of effort, unity of effort, use of all appropriate forces, and responsive force readiness posture.[5]

Command arrangements for counterair operations according to Joint Pub 3-01.2 will be in accordance with Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*. Specifically, the "joint force commander will normally designate a joint force air component commander . . . to employ combat air forces in support of counterair operations." However, the "tactical and strategic forces that may be committed to counterair operations, as well as other contributing forces such as [special operations forces], elements of Army, Navy, Air Force, and Marine aviation, surface air defense, and [electronic warfare], remain under the command of their respective components."[6] During sustained operations ashore, US Marine Corps tactical air will be employed in accordance with JCS Pub 12 (vol. 4, subpar. 1A.4.3) [which has been changed to Joint Pub 3-56, *Tactical Command and Control Planning Guidance and Procedures for Joint Operations (Information Exchange Planning Guidance)*] which follows:

> The Marine Air/Ground Task Force (MAGTF) Commander will retain operational control of his organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets unit normally will be in support of the MAGTF mission. The MAGTF Commander will make sorties available to the Joint Force Commander, for tasking through his air component commander for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support requirements will be provided to the Joint Force Commander for tasking through the air component commander for the support of other components of the joint force or the joint force as a whole. Nothing herein shall infringe on the authority of the Theater or Joint Force Commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the reapportionment and/or reallocation of any MAGTF TACAIR sorties when it has been determined by the joint force commander that they are required for higher priority missions), and direct coordination among his subordinate commanders to insure unity of effort in accomplishment of his

> overall mission, or to maintain integrity of the force, as prescribed in JCS Pub 2 [now Joint Publication 0-2].[7]

In summary then, Joint Pub 3-01.2 states that operational control of the assigned forces is exercised by the joint force commander to ensure unity of effort. Normally, this authority will be exercised through the service component commanders of assigned forces.[8]

Doctrine is so integral to service roles and missions that "to date it has not been possible for the Joint Chiefs of Staff, who operate essentially as a committee, to write meaningful 'how-to-fight' guidance for multiservice forces*—or even to set up a mechanism for the development of such doctrine as the best available thought—that can be defended by reason."[9] Additionally, joint publications are restricted due to their being written by "committee." That is, the Organization of the Joint Chiefs of Staff is composed of officers from each of the four services. Therefore, the ways of thinking are "codified by service proponents meeting in committee and [they are] then promulgated by the Joint Chiefs of Staff in a series of definitive publications."[10]

Frequently joint doctrine is a series of compromises. Often the action officers and joint planners compromise the issues before they get to the flag-officer level. For example, in Joint Pub 3-01.2 the terms *component command* and *service component command* were both used. Since both terms have definite meanings, using both terms could create confusion in exactly what is meant. The confusion focuses on the ambiguity of the terms as defined in Joint Pub 0-2. A component is defined as "a component command is also a 'component' or a 'service component'."[11] Therefore, one could conclude that the joint force commander has an Army, Navy, Marine, and Air Force component command, plus a fifth component—the air component commander. The use of both terms in this document was a compromise of the Army/Air Force and Navy/Marine positions.[12]

Another example is the exercise of command over assigned forces. In one instance Joint Pub 3-01.2 states that counterair should consider

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*The term *multi* was selected by the author of the quote to mean *more than one* rather than *many*.

the principle of unity of effort.* Yet the same document states that the strategic and tactical forces committed to counterair operations, as well as other contributing forces (e.g., special operations forces [SOF], electronic warfare [EW] forces, etc.), remain under the command of their respective components. In fact, the Omnibus Agreement is quoted verbatim in Joint Pub 3-01.2 (and Joint Pub 3-56, vol. 4). This agreement is a compromise between the Air Force and Marine Corps positions on sustained operations ashore.

Joint Pub 3-01.2 is still a useful document because it outlines how to plan for the use of forces in counterair operations. What the doctrine does not do is prescribe how to organize the assigned forces; rather, it leaves that up to the joint force commander. This may be the best we can expect given the way we develop doctrine. I would argue that we can do better—that we can develop an organization based upon the concepts and principles found in Joint Pub 0-2, on historical data, and on projections of future conflicts. With these thoughts in mind, the organization for airland combat proposed in this book, as outlined in chapter 3, was developed.

In summary, the proposed organization has a single commander—joint force or theater commander—and three components: one for naval assets, one for land assets, and one for air assets. The interface to accomplish airland combat occurs at the component level where a tactical control system is used to effect coordination and control assets. Within the air component command structure, there are liaison elements for Navy, Army, and Marine assigned assets.[13] These elements allow close coordination effectively employing the assigned assets to accomplish the theater or joint force commander's objectives.

After reviewing past conflicts and analyzing service doctrine, I have concluded that the following statements can be made concerning joint doctrine for airland warfare.

1. Military forces are best employed under the principle of unity of effort.

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*Unity of effort is accomplished through the exercise of command by a single joint force commander having full operational command over all assigned forces (Joint Pub 3-01.2, III-3).

2. Organizational structures to accomplish airland combat are more efficient when they are organized under the principle of unity of command.

3. The command structure must account for the unique characteristics of the three components of the service forces—air, land, and naval—to accomplish airland combat.

4. Air power, in support of the airland battle, must be centralized under a single air component commander.

5. Jointness in command organization does not mean all four services must share in the organization.

6. Command lines and communications must be kept as simple as possible. Defective organizations lose wars.

I hope that this book has increased your awareness of the problems we can create if we do not employ our forces under the principles of unity of effort and organize our combatant commands into a coherent structure that allows for the integration of the service assigned assets into a team of naval, land, and air forces. This book proposes one way to organize our forces for airland combat based on joint principles for war fighting—the unified command structure.[14]

Notes

1. Lt Gen John H. Cushman, USA, Retired, "Organization and Operational Employment of Air/Land Forces," US Army War College Reference Text (Carlisle Barracks, Pa.: US Army War College, 1983–1984), viii–x. General Cushman provides an interesting view on the difficulty in getting the services to agree on joint doctrine.

2. Joint Pub 3-01.2, *Joint Doctrine for Theater Counterair Operations (From Overseas Land Areas)*, 1 April 1986.

3. Joint Pub 3-01.2, pages B-1 to B-2, defines *counterair operations* as

> air operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Counterair operations include such measures as the use of interceptors, bombers, antiaircraft guns, surface-to-air missiles, electronic countermeasures, and destruction of the air or missile threat both before and after it is launched. Other measures that are taken to minimize the effects to hostile air actions are cover, concealment, dispersion, deception (including electronic), and mobility. Both offensive and defensive actions are involved. The former range throughout enemy territory and are generally conducted at the initiative of the enemy air forces. The latter are normally conducted near or over friendly forces and are generally reactive to the initiative of the enemy air forces.

See also *antiair warfare*, which is defined as "a US Navy/US Marine Corps term to indicate an action required to destroy or reduce to an acceptable level the enemy air and missile threat. It includes such measures as the use of interceptors, bombers, antiaircraft."

4. Ibid., III-1 to III-2.
5. Ibid., III-2.
6. Ibid., III-4.
7. Ibid., III-4 to III-5.
8. Ibid., III-5.
9. Ibid.; Cushman, ix.
10. Cushman, ix.
11. Joint Pub 0-2, 4.
12. There is discussion within the services over the term *component* as used in Joint Pub 0-2. There exists some confusion on interpreting and applying this concept to the command arrangements in our unified command structure. The confusion focuses on the ambiguity of the terms *component* and *service component.*

Use of the term *service component*, such as US Air Force component, does not consider those military situations when a member of a service other than the US Air Force has operational control of air assets. Endorsement of the term *service component*, vice *component*, implies an endorsement of the term *US Navy component*, for example. Use of this descriptive tag implies the acceptance of a multicommander concept in which two or more generic theater-assigned assets are operating in the same theater. The use of two land armies is a good example.

Endorsement of the term *component*, vice *service component*, implies an endorsement of the term *air*, *land*, or *naval component* which supports the doctrinal concept of having a single manager for all generic theater-assigned assets, regardless of service affiliation. As an example, the importance of having a single air commander was affirmed in JCS Memorandum 2502/645-1, "NATO Tactical Air Doctrine," 20 February 1975, which states:

> To realize their full potential and effectiveness, air forces must be employed as an entity under command arrangements that preclude dissipation and fragmentation of effort and permit the integrated, responsive, and decisive application of available air assets to tasks in the overall air effort that best achieve designated objectives. Unity of effort is best achieved when planning and control of the air effort is centralized at the highest level practicable under the unified authority of a single air command.

13. The air component structure is based upon the single-manager-for-air concept. Gen William W. Momyer, USAF, Retired, provided the following rationale for the single-manager-for-air concept. This information was collected from conversations with General Momyer during the period 1977 to 1984.

The air component should comprise all of those elements that are engaged in sustained operations on a daily basis. The decisions that have to be made on a daily basis demand detailed planning in order to get the most out of the assigned air elements. The air effort must be articulated carefully so that all of the elements work together. The pace of the air war is such that there isn't time to go through a long and tedious process of coordination and arguments about what should be done and when. Decisions must be made, and forces must execute operations in accordance with a plan of action. The air weapon system is the only system that can be directed to such a wide variety of targets. The priority employment of air power should be to gain air superiority so that it can provide air support to the divisions and corps.

14. Unified Command Structure. Perhaps the most important part of Joint Pub 0-2 is chapter 3, which outlines and describes the unified command structure. This chapter provides guidance for commanders who employ the forces that are organized, equipped, trained, and provided by the military departments. Chapter 3 discusses command, organization, operations, intelligence, logistics, and administration of service-provided forces in a unified and specified command structure. *Command* is defined in these terms: direction, coordination, and control; an order; a unit under the command of one individual. Command given an individual in the unified structure is called *operational command.* Specific guidance is provided on the exercise of operational command. According to Joint Pub 0-2, the commander of the unified command is authorized to

a. plan for, deploy, direct, control, and coordinate the action of assigned forces;

b. conduct joint exercises;

c. exercise direct authority for logistics within his command (the military departments and services continue to have responsibility under the secretary of defense for logistic and administrative support of component commands);

d. exercise direct authority over all elements of the command;

e. establish plans, policy, and overall intelligence activities of the command;

f. participate in the development and acquisition of the command and control system and direct its operation; and

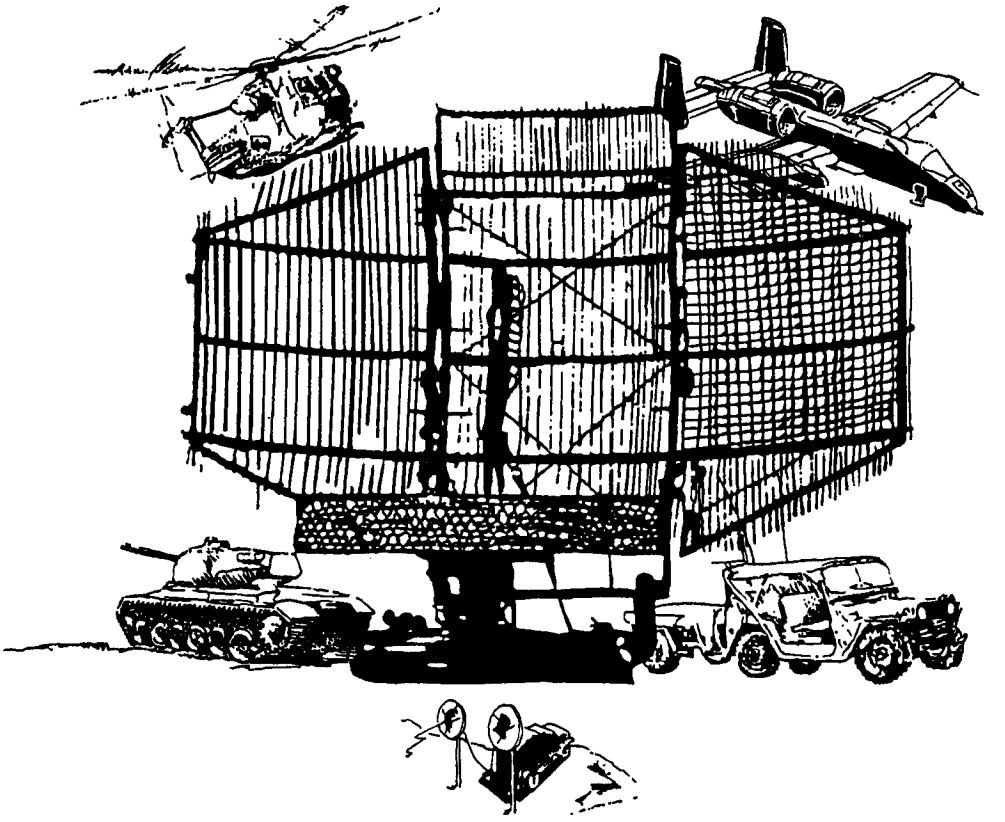
g. review respective military department budgets relevant to the command to verify that they are in agreement with the command's plans and programs. Operational command is exercised through the service component commanders—Army, Navy, and Air Force components.

Chapter 3 discusses unified and specified commands; joint task forces; and support, coordinating authority, and executive agent for the JCS. A unified command is a command established by the president with a broad continuing mission under a single commander. It is composed of assigned components of two or more services (e.g., United States European Command is a US unified command with United States Air Force Europe as the air component). A commander of a unified command may direct the attachment of elements of any of his service components to a subordinate unified command, joint task force, or uniservice force.

PHOTO SECTION

The majority of the photographs in this section have not previously been published. The assistance of Mr David Chenoweth of the Office of Air Force History, Ms Carol H. Parks of Headquarters United States Air Forces Europe (USAFE) History Office, the 601st Tactical Control Wing History Office, Det 2 of the 1367th Visual Information Squadron, the 602d Air Support Operations Group, and the Public Affairs Office of the 66th Electronic Combat Wing for providing these photographs is greatly appreciated.

USAF
TACTICAL AIR CONTROL SYSTEM



(Air-Ground Operations System)

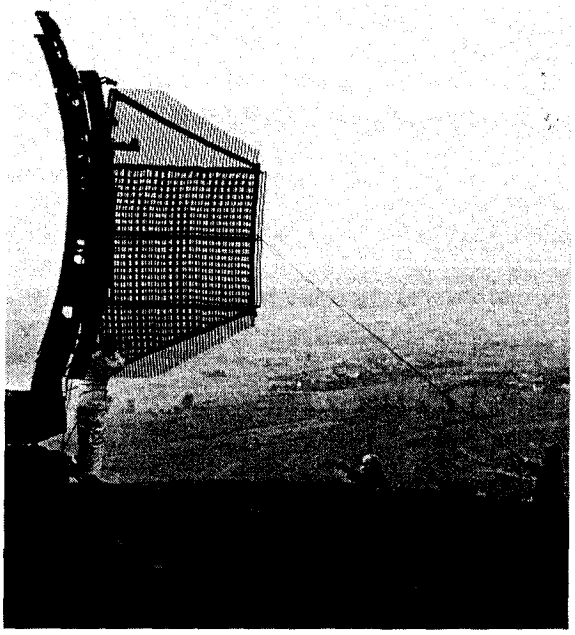
The 612th Tactical Control Flight (TCF), part of the European tactical air control system, deployed in support of a NATO exercise in February 1987. Capt Anne D. Leary, commander, 612th TCF, briefs Col Thomas A. Cardwell III, then commander of the 601st Tactical Control Wing, on the deployment. Shown also is Maj Franklin J. Hillson, executive officer. An AN/TPS-43 radar can be seen in the background. (USAF photo by CMSgt Frederick J. Ruggeri.)

Heavy-lift operation of the tactical air control system by a CH-53 of the 601st Tactical Air Support Squadron. The helilift was in support of a NATO air-ground exercise in West Germany in 1986. (USAF photo by SSgt Debbie Gonzales.)

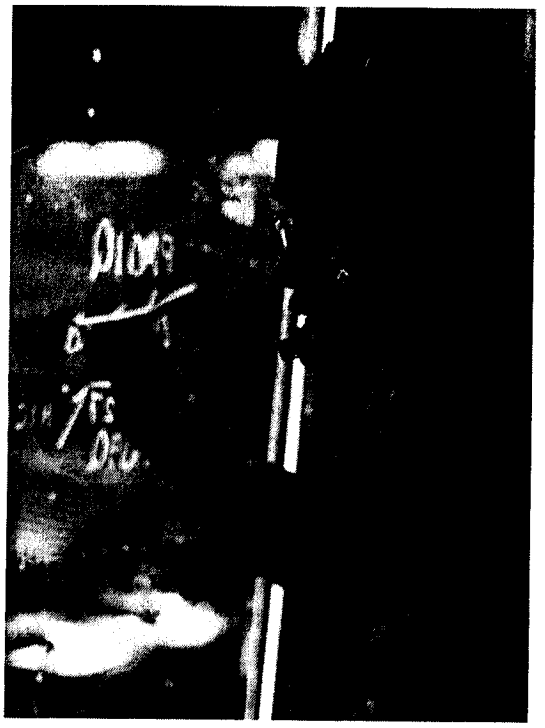
AN/TRC-97A mobile radio system used in support of US Air Force tactical air control system. The TRC-97 shown here was deployed in support of the US Army V Corps during an exercise in West Germany in 1985. (USAF photo.)

Mobile antenna "farm." These tactical communication systems are an integral part of the tactical air control system. (USAF photo.)

AN/TPS-43 radar, the mobile sensor of the tactical air control system, after setup and camouflage during a tactical air control system deployment. (USAF photo.)

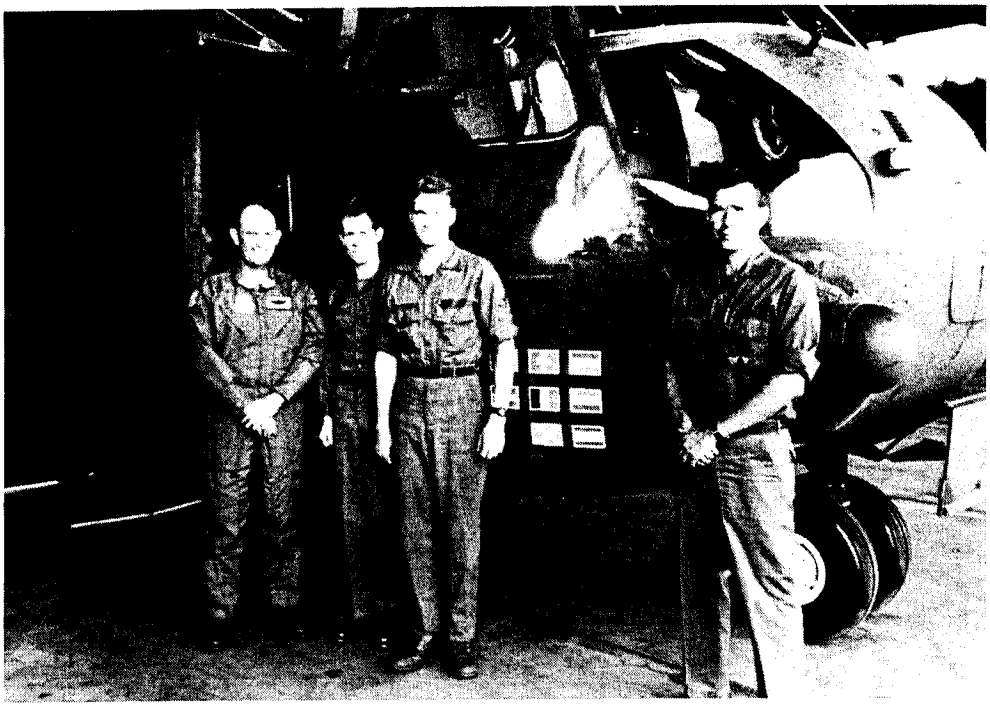


Members of the 609th Tactical Control Squadron, Bad Muender Air Station, set up an AN/TPS-43 at a deployed site in West Germany in support of Wintex '86 exercise. (USAF photo.)

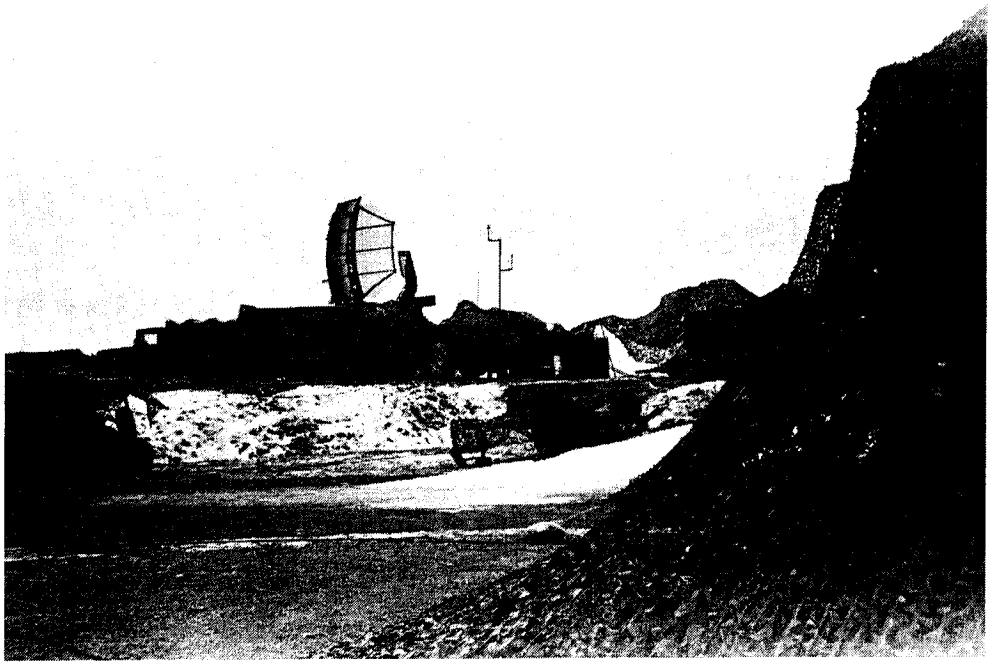


Plotting aircraft movement information at a tactical control squadron in support of a joint US Army and Air Force airland exercise. (USAF photo.)

OV-10 "Broncos" pitch out to land at Sembach Air Base (AB) after a forward air control mission in West Germany in 1983. (USAF photo by MSgt Don Sutherland.)



Nose art on CH-53, used for helilift of USAFE tactical air control system (TACS) equipment, depicts CLAW 1—the symbol of the 601st Tactical Control Wing. Pictured (left to right) are Col Tom Cardwell (wing commander), SSgt Mike Hildon and A1C Joseph Navitskis (dedicated crew chiefs of the aircraft) and Capt Rod Lees (601st Tactical Air Support Squadron chief of maintenance). Captain Lees designed and painted the nose art. (USAF photo.)



The 611th Tactical Control Flight deployed in support of offensive air support operations in the US Army V Corps area of operation in West Germany. (USAF photo.)

Gen George C. Marshall (left), US Army chief of staff, and Gen Henry H. ("Hap") Arnold, commanding general, US Army Air Forces, arrive at the residence of Prime Minister Winston Churchill in the conference area in Berlin, Germany, for the dinner given by the British prime minister in honor of President Harry S Truman and Generalissimo Joseph Stalin. The two generals return the salute of the Guard of Honor formed by a detachment of Scots Guards of the British Brigade of Foot Guards. Photograph taken 23 July 1946. (US Army photo.)

Gen Carl Spaatz, first chief of staff of the United States Air Force, is shown with Gen Hoyt S. Vandenberg (standing), who would replace General Spaatz after his retirement on 1 July 1948. Photograph taken at the Pentagon, May 1948. (USAF photo.)

Maj Gen H. ("Hap") Arnold (left) and Gen George C. Marshall during a visit in 1940 to Randolph Field, Texas. (USAF photo.)

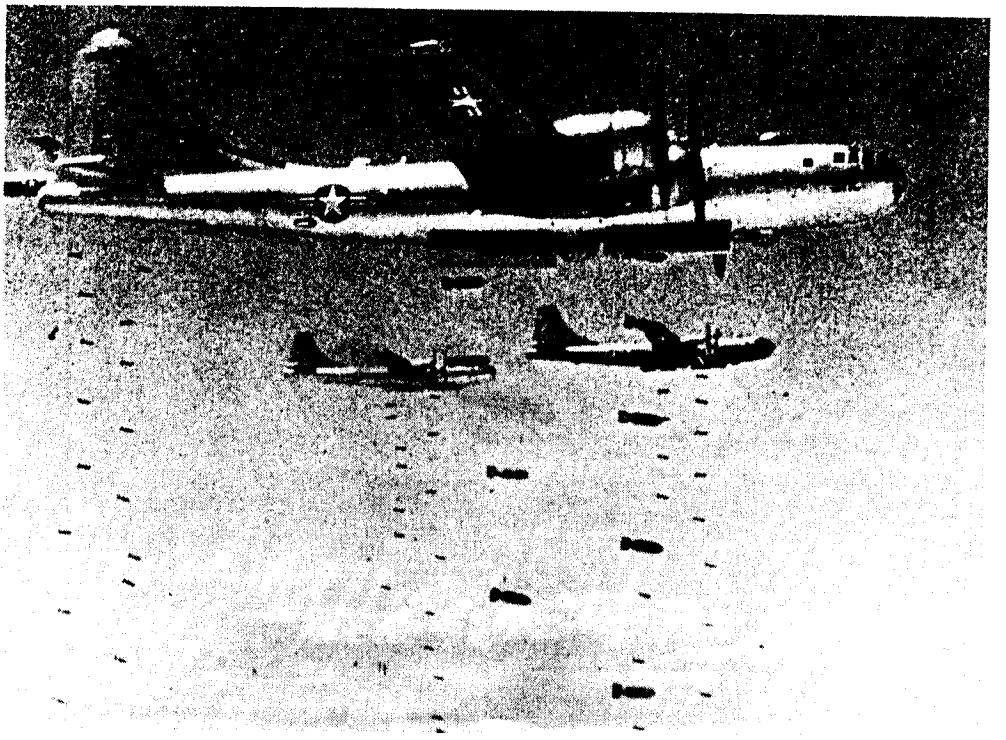
President Harry S Truman signs HR1726, an act "to provide for the organization of the Air Force and the Department of the Air Force," a technicality in the unification plans to make the Air Force Department official. Standing left to right: Chief of Staff of the Air Force Gen Hoyt S. Vandenberg; Rep Overton Brooks (D-La.); and Secretary of the Air Force Thomas K. Finletter. White House, 19 September 1951, Washington, D.C. (USAF photo.)

Official photograph of Lt Gen George E. Stratemeyer taken in 1952. (USAF photo.)

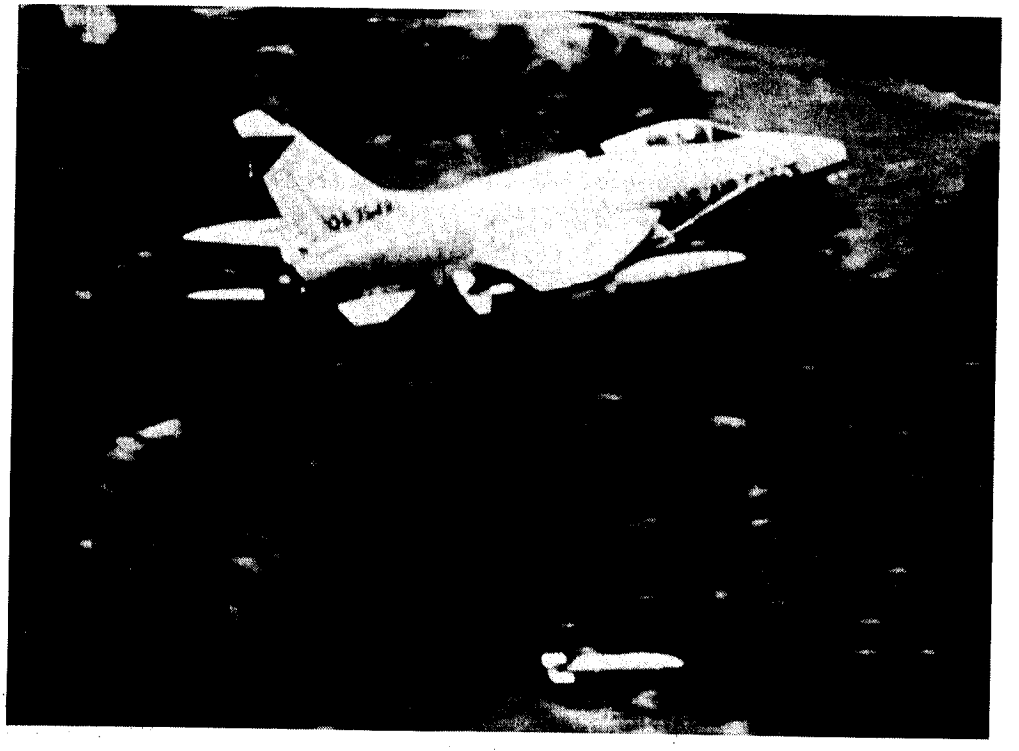
Gen William ("Billy") Mitchell. (Office of Air Force History photo.)

Lt Gen Henry H. ("Hap") Arnold, War Department, Munitions Building, Washington, D.C., 23 December 1941. (US Army photo.)

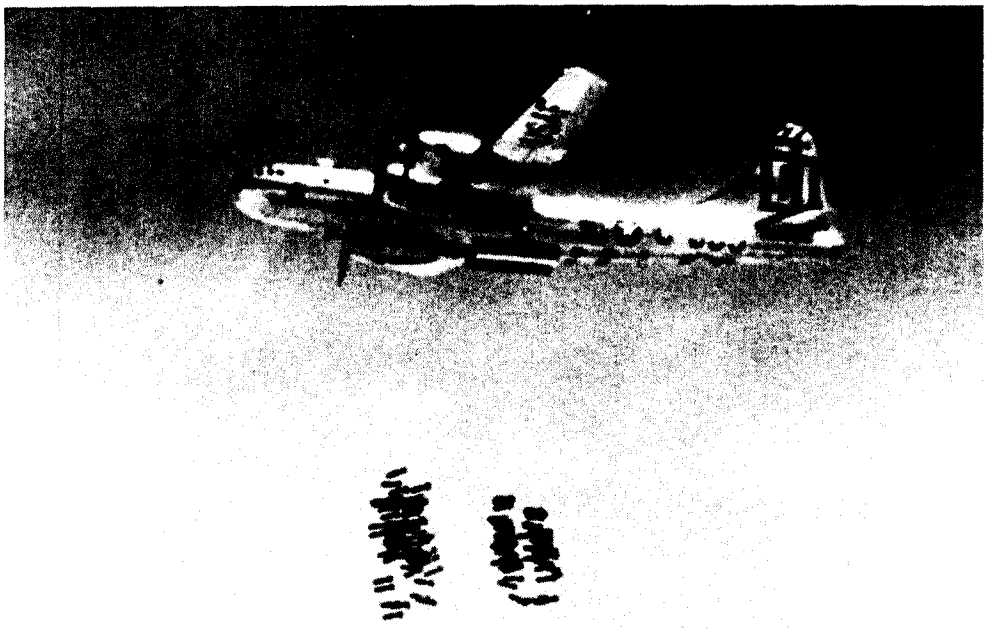
Lt Gen Otto P. Weyland, left, commanding general, US Far East Air Forces, chats with Lt Gen Laurence S. Kuter, commander of the Military Air Transport Service (MATS), Haneda Airport near Tokyo, Japan. General Kuter is visiting MATS organizations and facilities in the Far East, August 1951. (USAF photo.)



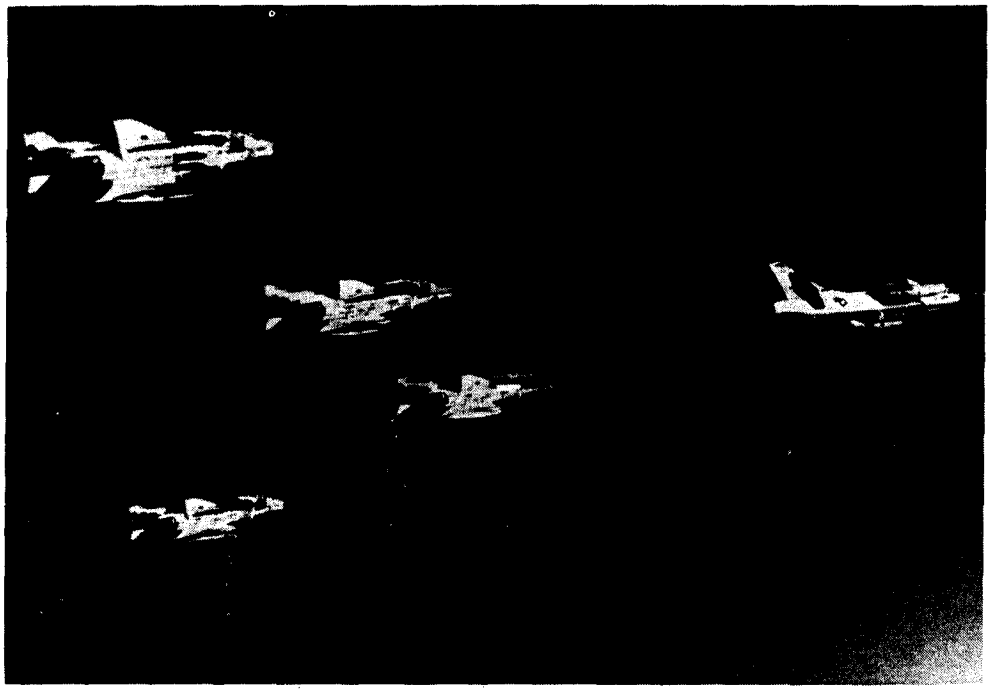
US Air Force B-29 Superfortresses drop bombs over a target area during the Korean War. (Department of Defense photo.)



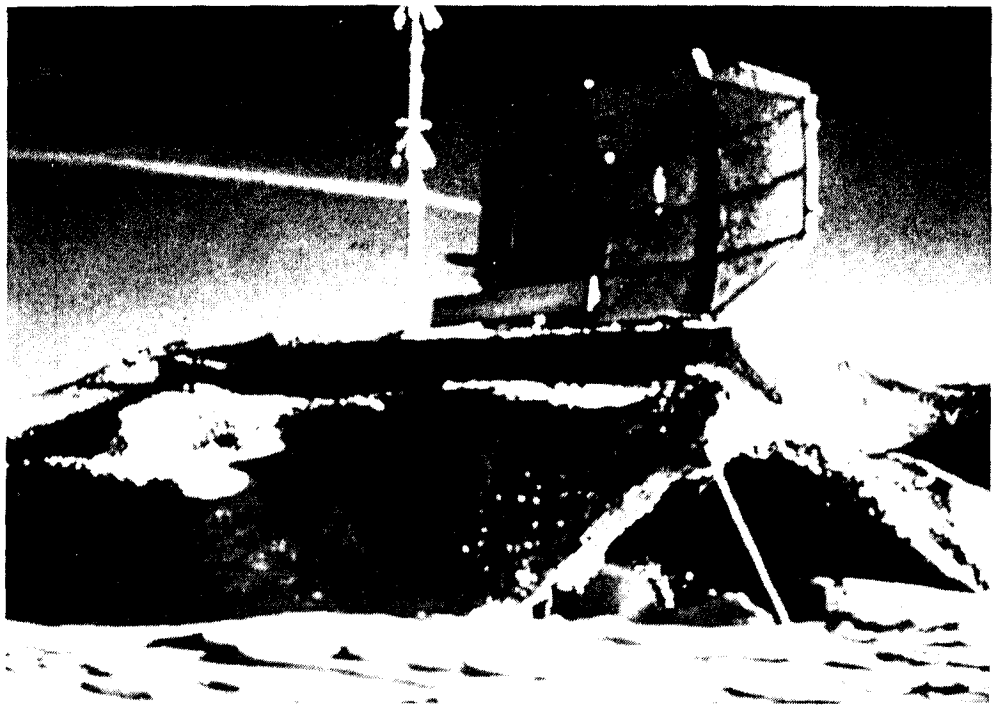
US Air Force F-100 Super Sabre pulls up sharply after releasing napalm bombs against a Vietcong concentration position concealed in a tree line in the Mekong Delta of South Vietnam. Photo taken in 1967. (USAF photo.)



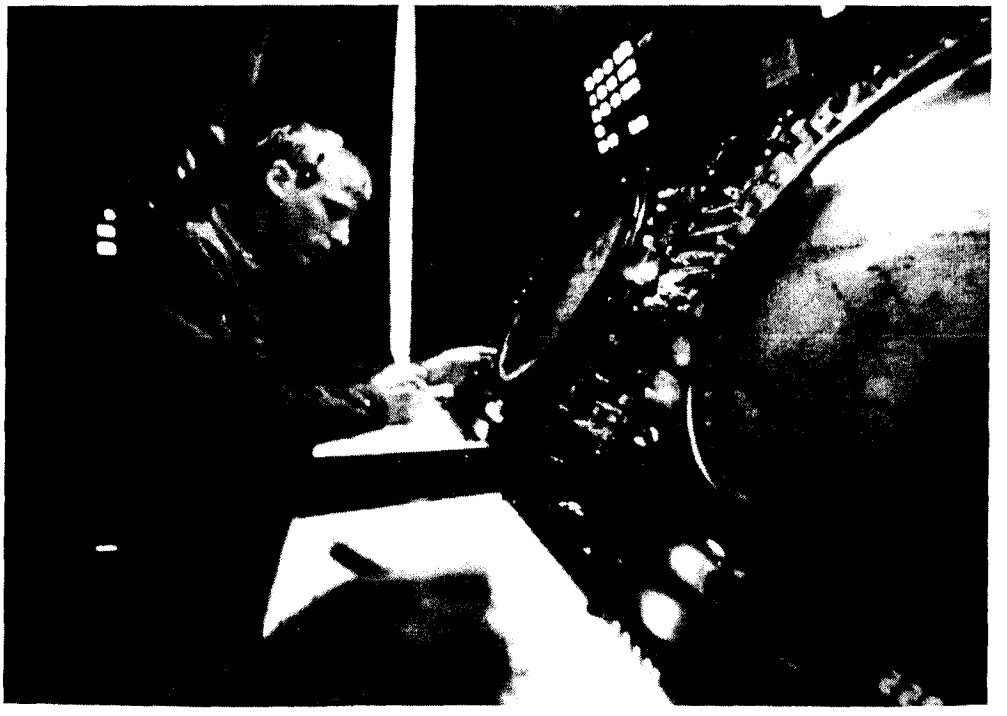
Destruction en route. Over North Korea masses of nearly solid clusters of demolition bombs plunge earthward from the bomb bays of this Far East Air Forces B-29 Superfortress of the Japan-based 98th Bombardment Wing. Photogaph taken 13 July 1951. (USAF photo.)



Radar bombing. Led by an RB-66 Destroyer, pilots flying US Air Force F-4C Phantoms drop bombs on a Communist military target in Vietnam. Using radar equipment to pinpoint their targets, the high-flying aircraft are not hampered by clouds or adverse weather. Numerous missions of this type were flown when inclement weather obscured targets in Vietnam. Photo taken in July 1966. (USAF photo.)



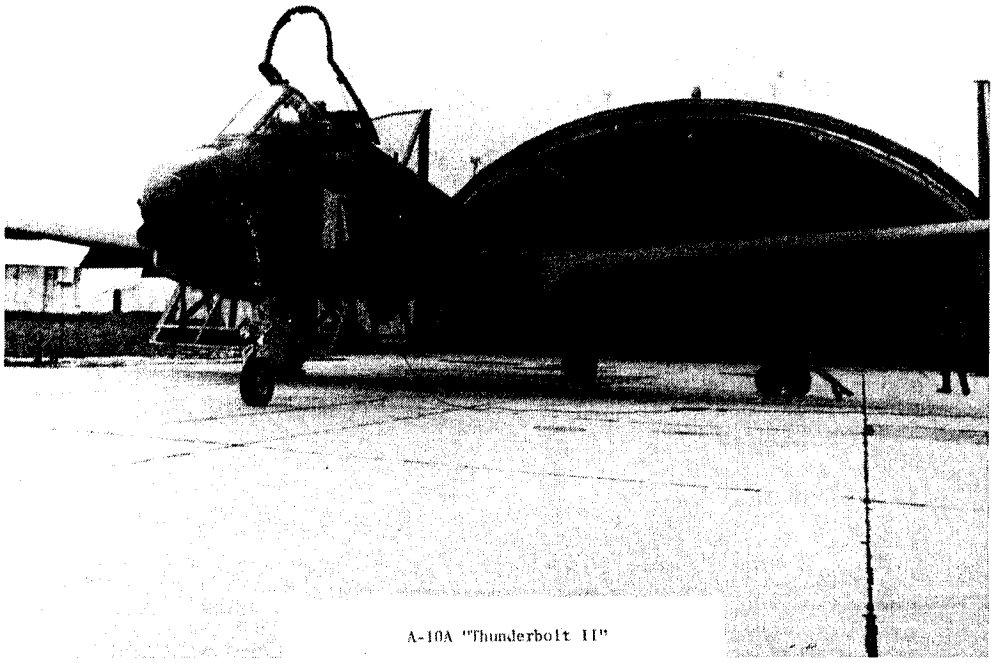
A tactical control squadron of the European tactical air control system is deployed to Norway during a NATO exercise. (USAF photo.)



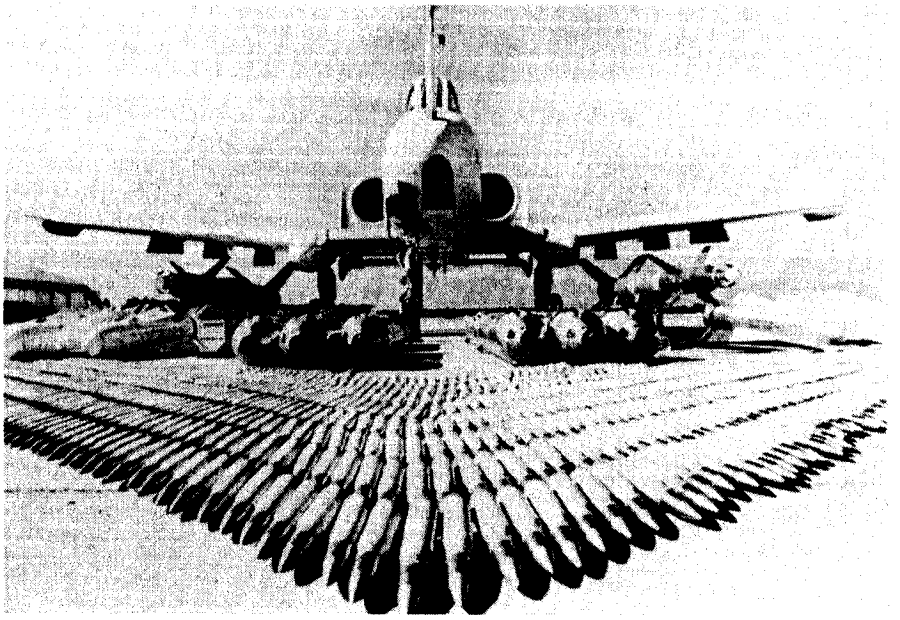
Inside a tactical air control operations central cell of the US Air Force tactical air control system. (USAF photo.)

Ground controller marshals CH-53 heavy lift of communications equipment in support of a US Army and Air Force joint airland exercise. (USAF photo.)

US Air Force CH-53, used to deploy the ground tactical air control system, prepares to depart a forward staging base. The helicopter is assigned to the 601st Tactical Air Support Squadron, Sembach AB, West Germany. (USAF photo.)

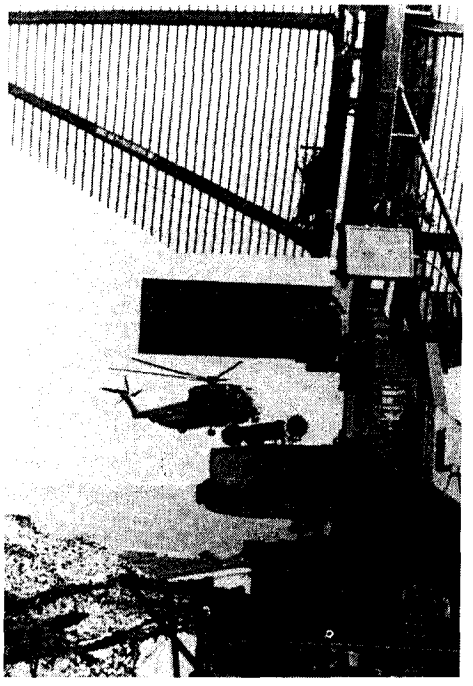


The A-10A Thunderbolt II aircraft used for close air support of land forces. A-10A aircraft from the 81st Tactical Fighter Wing, RAF Bentwaters, United Kingdom, support the NATO airland campaign. (USAF photo.)

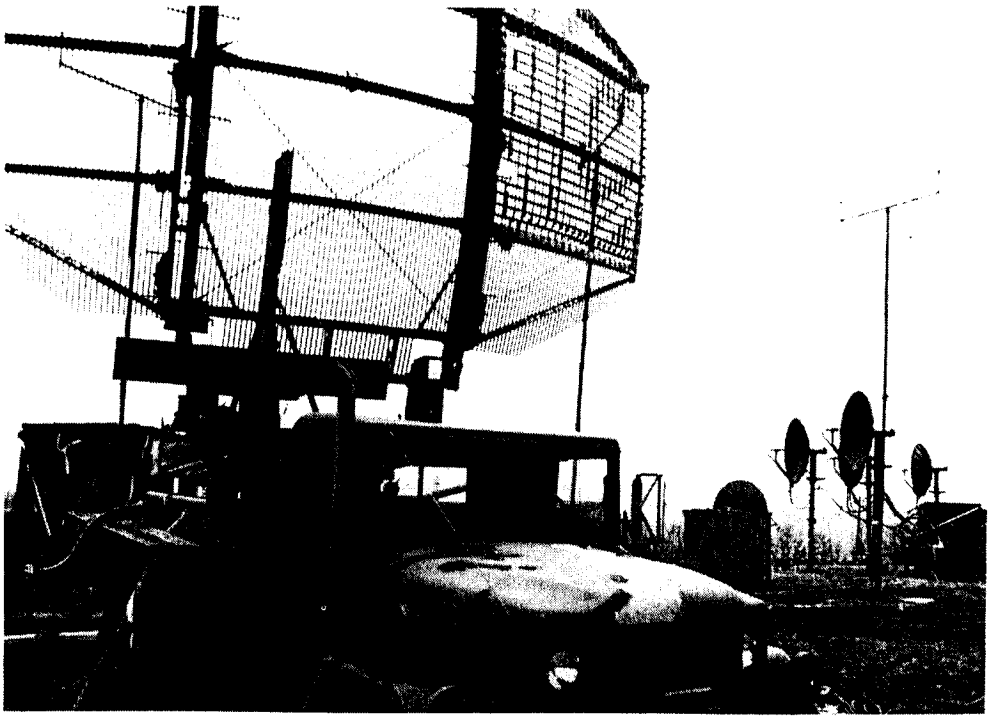


An A-10A pictured with the wide variety of ordnance it could carry. (USAF photo.)

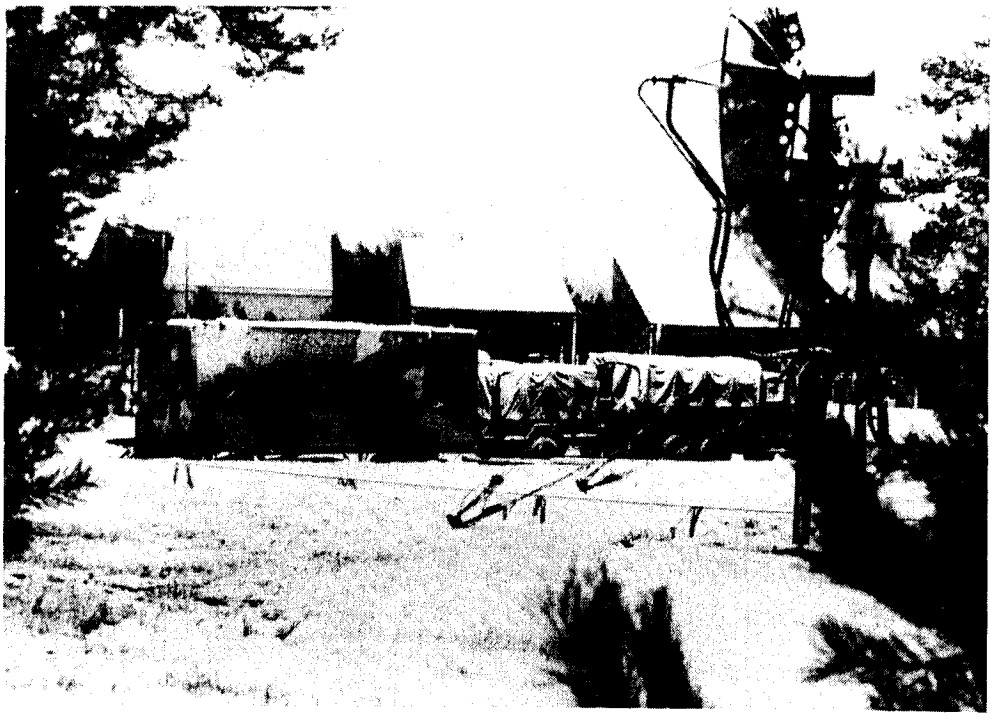
OV-10As are used by the tactical air control system as airborne FACs. Pictured are Brig Gen Robert A. Norman, USAF, Retired, former 601st TCW commander, and Col Thomas A. Tilgham, USAF, Retired, former 601st Tactical Air Support Group commander, piloting the OV-10As to Sembach AB, West Germany. Photo taken in 1985. (USAF photo.)



A CH-53 helicopter approaches the deployed site near Freienhogen, West Germany, where the 612th Tactial Control Flight had set up camp in support of NATO exercise Roaring Lion 1984, conducted during September and October 1984. (USAF photo.)

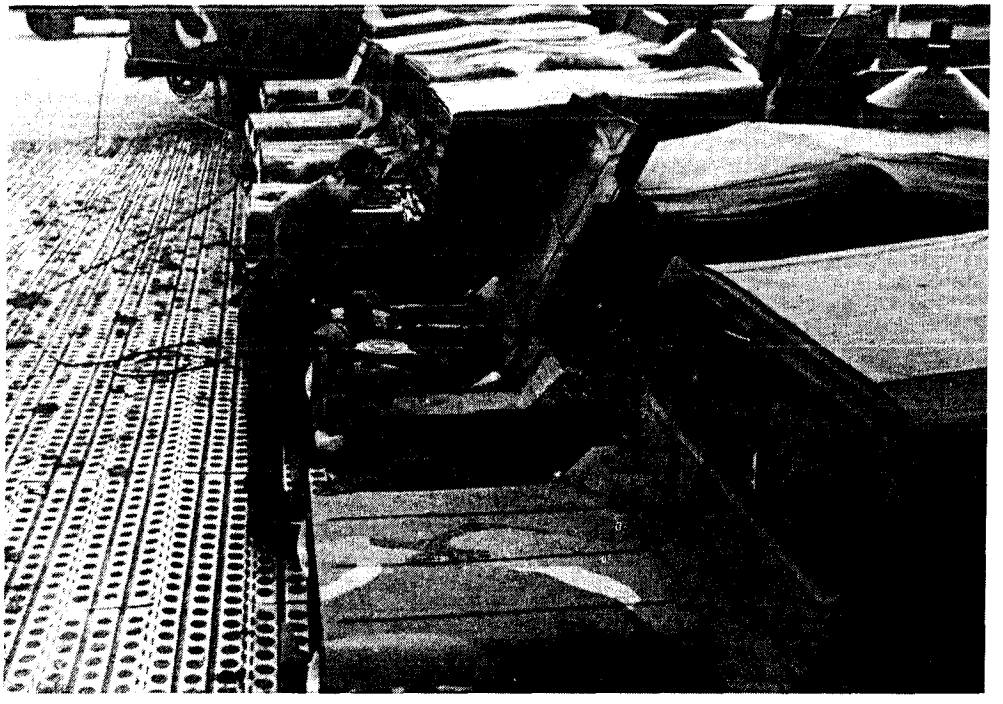


A TPS-43E radar configured on the bed of an M35 truck. TRC-97As (radio communication equipment) are set up on the right. (USAF photo.)

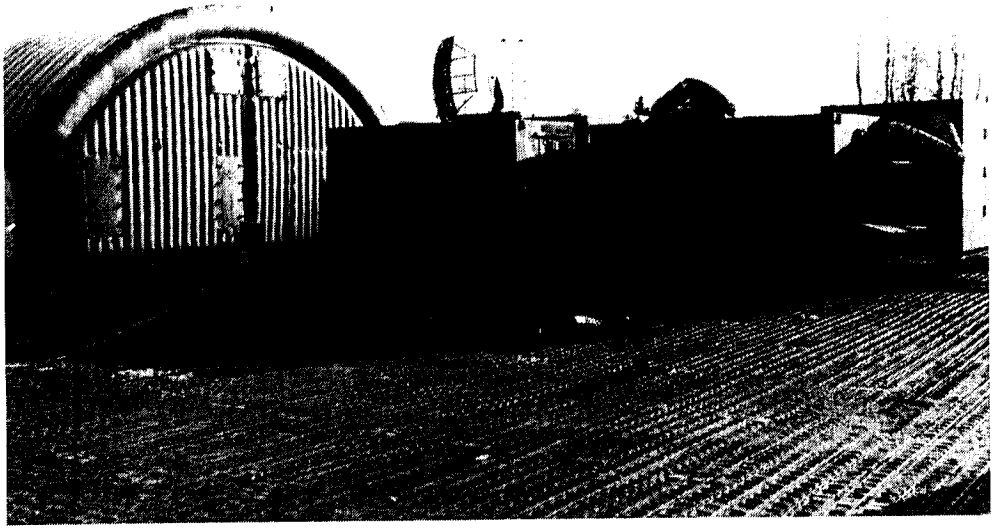


Several TRC-97As (long haul tactical communications) are set up at Mehlingen, West Germany. (USAF photo.)

A TRC-97A troposcatter radio relay element is set up to provide TACS unit tactical communications connectivity. (USAF photo.)



The MRC-107/108A communications centrals used by the Air Support Operations Centers in support of the US Army and US Air Force air-ground interface. Note the stovepipe antennas at the rear of the jeeps. (The MRC-107/108A will be installed in the HMMWV M998-series vehicles which are replacing the old jeeps.) (USAF photo.)



Shown here is a comparative look between the older TSQ-91V operations central cell of the TACS and the newly developed "Hard Hat" configuration for the operations cell. (USAF photo.)

Members of the 601st Tactical Control Squadron, Pruem Air Station, West Germany, get a chance to try out the new modularized "Hard Hat" configuration firsthand. (The older shelter was called the "rubber ducky" which was an inflatable rubber housing.) This photo is an inside look at the TSQ-91V cell. (USAF photo.)

Joint planning of the close-air-support mission in 1987 by US Army and US Air Force personnel. Air Force members are from the 602d Air Support Operations Group and Army members are from the US Army VII Corps. (USAF photo by SSgt James Stepp.)

A tactical air control party (TACP) of the 602d Air Support Operations Group controls a close-air-support mission in West Germany. (USAF photo by SSgt James Stepp.)

The newest tactical field vehicle, the HUMMER or HUM VEE (M998, 1 1/4 ton 4x4, high mobility multipurpose wheeled vehicle) is replacing the old standard jeep for tactical use. The author is shown dismounting a HUMMER after a field test. (USAF photo by SSgt Brian Friday.)

The HUMMER, shown here during a field test in West Germany, is scheduled for use by the US Air Force and US Army tactical units in support of the air ground operations system (AGOS). (USAF photo by SSgt Brian Friday.)

Appendix

Unified Command Plan*

Command of unified and specified combatant commands is exercised as provided for in the unified command plan and as directed by the Secretary of Defense. The National Security Act of 1947 and Title 10 of the United States Code provide the basis for the establishment of unified and specified combatant commands.

A unified combatant command has broad, continuing missions and is composed of forces from two or more Military Departments. A specified command has broad, continuing missions and is normally composed of forces from a single Military Department. The Unified Command Plan (UCP) establishes the missions, responsibilities and force structure for commanders of unified and specified combatant commands and establishes their general geographic areas of responsibility and functions. Communications between the National Command Authorities (NCA), that is the President or the Secretary of Defense, and the commanders of the combatant commands shall be transmitted through the Chairman of the Joint Chiefs of Staff, unless otherwise directed by the President or the Secretary of Defense.

Forces assigned to unified or specified combatant commands will be under combatant command of commanders of the unified or specified combatant commands. Except as otherwise directed by the Secretary of Defense, forces assigned to the unified or specified combatant commands do not include forces assigned to carry out functions of the Secretary of a Military Department as defined in Title 10 or forces assigned to multinational peacekeeping organizations.

Unified and specified combatant command forces will be assigned to such commands by the Secretary of Defense's memorandum entitled "Forces for Unified and Specified Commands." Except as otherwise directed by the President or the Secretary of Defense, all forces

*Adapted from the Unified Command Plan (UCP).

operating within the geographic area assigned to a unified combatant command shall be assigned or attached to and under the command of the commander of that command. A force assigned or attached to a combatant command under Section 162 of Title 10 may be transferred from that command only as directed by the Secretary of Defense and under procedures prescribed by the Secretary of Defense and approved by the President.

The authority of combatant commanders is established in Chapter 6 of Title 10. The commander of a unified or specified combatant command shall exercise command authority, as defined in Section 164(c) of Title 10, over all forces assigned to that command. In addition, the commander of a unified or specified combatant command will, unless otherwise directed by the Secretary of Defense, exercise those functions of command involving the control of assigned resources.

In the temporary absence of the commander of a unified or specified command, interim command will pass to the deputy commander. If a deputy commander has not been designated, interim command will pass to the next senior officer present for duty who is eligible to exercise command, regardless of service affiliation.

The commander of a unified or specified combatant command is responsible for:

a. Maintaining the security of the command, including its assigned or attached forces and assets, and protecting the United States, its possessions, and bases against attack or hostile incursion.

b. Carrying out assigned missions and tasks.

c. Assigning tasks to, and directing coordination among, the command's subordinate commands to ensure unity of effort in the accomplishment of the commander's assigned missions.

d. Planning for and executing operations in contingencies, limited war, and general war.

The commander of a unified command that includes a general geographic area of responsibility is additionally responsible for:

a. Planning and implementing the evacuation of US noncombatant and certain non-US persons abroad and reviewing emergency action plans within the commander's general geographic area of responsibility.

b. Providing for US military representation, within the commander's general geographic area of responsibility, to international and US national agencies unless otherwise directed by the Secretary of Defense. The US military representatives will provide advice and assistance to Chiefs of US Diplomatic Missions in negotiation of rights, authorizations, and facility arrangements required in support of US military missions in the region.

c. Providing the single point of contact within his area of responsibility. Unless otherwise directed by the Secretary of Defense, whenever a commander undertakes exercises, operations, or other activities with the military forces of nations in another commander's area of responsibility, those exercises, operations, and activities, and their attendant command relations, will be as mutually agreed between the commanders. The Chairman of the Joint Chiefs of Staff shall prepare for the approval of the Secretary of Defense directions as appropriate.

d. Providing military assessments of the security assistance programs within their assigned security assistance area.

e. Ensuring the coordination of regional security assistance matters under command responsibility with affected Chiefs of US Diplomatic Missions.

f. Commanding, supervising, and supporting the security assistance organizations in matters that are not functions or responsibilities of the Chiefs of US Diplomatic Missions.

g. Carrying out advisory, planning, and implementing responsibilities relating to security assistance within their assigned security assistance areas.

Those geographic areas not assigned to a combatant commander will be assigned as necessary by the Chair of the Joint Chiefs of Staff, unless otherwise directed by the Secretary of Defense.

General Geographic Areas of Responsibility

In establishing commands, it is not intended to delineate restrictive geographic areas of responsibility for accomplishment of missions assigned. Commanders may operate forces wherever required to accomplish their missions. Unless otherwise directed by the Secretary of Defense, when significant operations overlap boundaries, a task force will be formed. Command of the task force will be determined by the President or the Secretary of Defense and transferred to the appropriate commander. Forces directed by the President or the Secretary of Defense may also conduct operations from or within any geographic area as required for accomplishing assigned tasks, as mutually agreed by the commanders concerned or as directed by the President or the Secretary of Defense. To provide a basis for coordination by commanders, general geographic areas of responsibility are delineated in subsequent paragraphs concerning unified and specified combatant commands. These areas also provide the basis for coordinating intelligence and logistic planning.

Unified and Specified Combatant Commands

US Atlantic Command (USLANTCOM). The Commander in Chief, US Atlantic Command (USCINCLANT), headquartered at Norfolk, Virginia, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCLANT's general geographic area of responsibility for the conduct of normal operations is the Atlantic Ocean west of 17 degrees E, the Caribbean Sea, the Pacific Ocean east of 92 degree W, the Arctic Ocean east of 95 degrees W and west of 100 degrees E, and Greenland and other islands (except the United Kingdom and Ireland) in all assigned water areas.

US Central Command (USCENTCOM). The Commander in Chief, US Central Command (USCINCCENT), with headquarters at

MacDill Air Force Base, Tampa, Florida, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCCENT's general geographic area of responsibility for the conduct of normal operations includes Egypt, Sudan, Djibouti, Ethiopia, Kenya, Somalia, Jordan, Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates, Republic of Yemen, Bahrain, Iran, Iraq, Afghanistan, and Pakistan, plus the Gulf of Aden, Gulf of Oman, Persian Gulf, and Red Sea.

US European Command (USEUCOM). The US Commander in Chief, Europe (USCINCEUR), with headquarters at Patch Barracks, Stuttgart, Germany, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCEUR's general area of responsibility for the conduct of normal operations in Europe, including eastern European countries (Poland, Czechoslovakia, Hungary, Bulgaria, Romania, Yugoslavia, Albania), the United Kingdom, and Ireland; the Mediterranean Sea and its islands; the Mediterranean littoral (excluding Egypt); and the continent of Africa (less Egypt, Sudan, Kenya, Ethiopia, Somalia, and Djibouti).

US Pacific Command (USPACOM). The Commander in Chief, US Pacific Command (USCINCPAC), with headquarters at Camp H. M. Smith, Oahu, Hawaii, is the commander of unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCPAC's general geographic area of responsibility for the conduct of normal operations is the Pacific Ocean west of 92 degrees W, the Bering Sea, the Arctic Ocean west of 95 degrees W and east of 100 degrees E, the Indian Ocean east of 17 degrees E (excluding the Gulf of Aden and the Gulf of Oman), Japan, the Republic of Korea, the Democratic People's Republic of Korea, the People's Republic of China, Mongolia, the countries of Southeast Asia and the southern Asian landmass to the western border of India, and Madagascar and the other islands in all assigned water areas. In addition, USCINCPAC's general geographic area of responsibility for the

conduct of normal operations other than air defense will include Alaska and the Aleutian Islands.

US Southern Command (USSOUTHCOM). The Commander in Chief, US Southern Command (USCINCSO), with headquarters at Quarry Heights, Panama, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCSO's general geographic area of responsibility for the conduct of normal operations is Central and South America. USCINCSO is also responsible for the defense of the Panama Canal and the Panama Canal area.

Forces Command (FORSCOM). The Commander in Chief, Forces Command (CINCFOR), with headquarters at Fort McPherson, Atlanta, Georgia, is the commander of a specified combatant command comprising assigned major combatant conventional general purpose forces. CINCFOR has no general geographic area of responsibility for normal operations and will not exercise those functions of command associated with area responsibility. However, CINCFOR's responsibilities include:

a. Planning for land defense of CONUS and execution on order. CINCFOR is also responsible for planning for combined Canada-United States land defense of Canada and military support to civil defense.

b. Provision of a general reserve of deployable Army forces to reinforce other unified or specified commands when and as directed.

c. Readiness and related deployment planning for assigned or apportioned forces to reinforce the other unified and specified commands.

US Special Operations Command (USSOCOM). The Commander in Chief, US Special Operations Command (USCINCSOC), with headquarters at MacDill Air Force Base, Tampa, Florida, is the commander of a unified combatant command comprising assigned forces. USCINCSOC has no general geographic area of responsibility for normal operations and will not exercise those functions of command

associated with area responsibility. In addition to functions specified in Sections 164(c) and 167 of Title 10, USCINCSOC's responsibilities include:

a. Providing combat-ready special operations forces to other unified or specified commands when and as directed.

b. Training, including joint training exercises, of assigned forces and developing appropriate recommendations to the Chairman of the Joint Chiefs of Staff, regarding strategy, doctrine, tactics, techniques, and procedures for the joint employment of special operation forces.

c. Exercising command of a selected special operations mission if directed to do so by the President or the Secretary of Defense.

US Space Command (USSPACECOM)

a. The Commander in Chief, US Space Command (USCINCSPACE), with headquarters at Peterson Air Force Base, Colorado Springs, Colorado, is the commander of a unified combatant command. USCINCSPACE has no general geographic area of responsibility for normal operations and will not exercise those functions of command associated with area responsibility. However, USCINCSPACE's responsibilities include:

(1) Supporting the North American Aerospace Defense Command (NORAD) by providing the missile warning and space surveillance necessary to fulfill the US commitment to the NORAD Agreement.

(2) Exercising combatant command over those assigned US forces that provide warning and assessment of strategic space and missile attack of CONUS and Alaska.

(3) Conducting space operations to include launch and on-orbit operations and advocating space and missile warning requirements of other CINCs, and advocating their needed space support capabilities in coordination with each concerned operational commander.

(4) Conducting space operations by exercising combatant command over assigned space control, space support, and force

enhancement forces, as well as forces that provide strategic ballistic missile defense for the US.

(5) Planning for and developing requirements for strategic ballistic missile defense and space-based tactical ballistic missile defense.

(6) Providing integrated tactical warning and attack assessment of space, missile, and air attacks on CONUS and Alaska should NORAD be unable to accomplish the assessment mission.

b. USCINCSPACE is also Commander, US Element, NORAD (CDRUSELMNORAD), and is normally designated CINCNORAD, commander in chief of the binational command of the United States and Canada. When, in accordance with United States-Canada agreement, CINCNORAD is a Canadian, USCINCSPACE is designated Deputy CINCNORAD (DCINCNORAD). CINCNORAD is responsible for the employment of assigned forces, with the support of USCINCSPACE and commanders of other unified and specified combatant commands, to carry out the NORAD mission. Relationships with regard to air defense of Alaska will be identified in a memorandum of agreement between USCINCPAC and CINCNORAD unless otherwise directed by the Secretary of Defense.

US Strategic Command (USSTRATCOM). The Commander in Chief, US Strategic Command (USCINCSTRAT), with headquarters at Offutt Air Force Base, Omaha, Nebraska, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's missions. USCINCSTRAT has no geographic area of responsibility for normal operations and will not exercise those functions of command associated with area responsibility. When USSTRATCOM's forces are deployed in a geographic CINC's AOR, they will remain assigned to USSTRATCOM unless reassignment is directed by the Secretary of Defense. USCINCSTRAT will have primary responsibility for strategic nuclear forces to support the national objective of strategic deterrence. In addition, USCINCSTRAT's responsibilities include:

a. Employing assigned forces, as directed.

b. Providing support to other combatant commanders, as directed.

c. Conducting appropriate worldwide strategic reconnaissance.

d. Ensuring command, control, communications, and intelligence (C^3I) for strategic force employment.

US Transportation Command (USTRANSCOM). The Commander in Chief, US Transportation Command (USCINCTRANS), with headquarters at Scott Air Force Base, Belleville, Illinois, is the commander of a unified combatant command comprising all forces assigned for the accomplishment of the commander's mission. USTRANSCOM will not exercise those functions of command associated with area of responsibility. When USTRANSCOM's forces are deployed in geographic CINC's AOR, they will remain assigned to USTRANSCOM unless reassignment is directed by the Secretary of Defense. USCINCTRANS's responsibilities include:

a. Providing air, land, and sea transportation for the Department of Defense, both in time of peace and time of war.

b. Providing airlift, sea lift, surface transport, and terminal services, and commercial air, land, and sea transportation, including as needed to support the deployment, employment, and sustainment of US forces on a global basis, as directed by the Secretary of Defense.

Terms and Definitions

The following terms and definitions were extracted from AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*; FM 100-5, *Operations*; FC 100-26, *Air-Ground Operations*; TACM 2-1, *Tactical Air Operations*; Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*; Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*. Additionally, selected terms are explained in greater detail to show their relationship to other terms, and how these terms are applied in the airland battle.

A

active air defense. Direct defensive action taken to destroy or reduce the effectiveness of an enemy air attack. It includes such measures as the use of aircraft, antiaircraft guns, electronic countermeasures, and surface-to-air guided missiles. *See also* air defense and passive air defense.

aerial mine laying. On 22 May 1974 the US Air Force and the US Navy signed a joint agreement, specifying mine-laying responsibilities and procedures for each service. While the primary US Air Force support for mine-laying operations comes from SAC which provides drogue-retarded cylindrical mines dropped from B-52s, several other tactical aircraft are capable of conducting mine-laying operations. Joint procedures for mine laying are detailed in current plans which are exercised during annual tests.

aerial surveillance. A systematic observation of airspace or surface areas by visual, aerial, electronic, photographic, or other means. *See also* surveillance.

aerospace. Of, or pertaining to, the earth's envelope of atmosphere and the space above it. These are two separate entities considered as a single realm.

aerospace control (air space control). The role that encompasses all actions taken to secure and control the aerospace environment and to deny the use of that environment to the enemy.

aerospace control operations. The employment of air forces, supported by ground and naval forces, as appropriate, to achieve military objectives in vital aerospace areas. Such operations include destruction of enemy aerospace and surface-to-air forces, interdiction of enemy aerospace operations, protection of vital air lines of communication, and the establishment of local military superiority in areas of air operations.

aerospace defense. A mission that includes strategic air defense and space defense operations.

air base operability. The integrated capability of an installation to defend against, survive the effects of, and recover from hostile action; thus supporting effective wartime employment of air power. Air base operability provides the sustained operational capability to wage war.

airborne battlefield command and control center. A US Air Force aircraft equipped with communications, data link, and display equipment; it may be employed as an airborne command post or a communications and intelligence relay facility. It is an airborne aircraft equipped with necessary staff, communications equipment, and operations facilities to function as an airborne air support operations center.

airborne warning and control system. An aircraft suitably equipped to provide an airborne control, surveillance, and communications capability for strategic defense and/or tactical air operations.

air campaign. A connected series of operations conducted by air forces to achieve joint force objectives within a given time and area of operations.

air command. A major subdivision of the Air Force; for operational purposes it normally consists of two or more air forces.

air component. The air portion of the combined/unified/joint force.

air component commander. The commander of the air portion of the combined/unified/joint force.

air defense. All measures designed to destroy attacking enemy aircraft or missiles in the earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack.

air defense area. Overseas—a specifically defined airspace for which air defense must be planned and provided. United States—airspace of defined dimensions designated by the appropriate agency within which the ready control of airborne vehicles is required in the interest of national security during an air defense emergency.

Air Defense Command. The authority responsible for the air defense of a designated area.

air defense commander. A duly appointed commander responsible for the air defense of a designated area.

air defense identification zone. Airspace of defined dimensions within which the ready identification, location, and control of airborne vehicles are required.

air interdiction. Air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces and at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. *See also* interdict.

air interdiction operations. Air interdiction of enemy ground force second-echelon movements, sometimes referred to as battlefield air

interdiction, requires extensive reconnaissance and surveillance support to determine the location and movement of these forces. Air interdiction operations can include attacks on industrial, supply, and transportation complexes to reduce the availability or movement of personnel and materiel. The air component commander requires prestrike reconnaissance as well as poststrike damage assessment to determine the status and vulnerability of the enemy logistics system. Reconnaissance and surveillance of the enemy's capability to reroute, transship, or employ new means of transportation is essential as is reconnaissance of concentration areas along lines of communications. These include transshipment facilities, supply depots, repair centers, geographical choke points, troop staging areas, and industrial installations. Since air interdiction operations do not normally inhibit all enemy activity, commanders should repeatedly employ reconnaissance forces to monitor movement and resupply efforts.

Some interdiction operations are supported by strike control and reconnaissance (SCAR) aircraft. Information provided by these aircraft with real-time sensors or through visual means is passed directly to attack aircraft for immediate strike. These missions are normally flown into areas where activity is known to be taking place but cannot be accurately located by other means. *See also* target nomination (interdiction).

air liaison officer. A tactical air force or naval aviation officer attached to a ground or naval unit or formation as the adviser on tactical air operation matters. *See also* ground liaison officer.

airlift control center. An operations center where detailed planning, coordinating, and tasking for tactical airlift operations are accomplished. This is the focal point for communications and the source of control and direction for the tactical airlift forces.

airlift control element. A subelement of the airlift control center which can be displaced to a staging area to coordinate or assist in controlling airlift mission requirements.

airmobile operations. Operations in which combat forces and their equipment move about the battlefield in air vehicles under the control of a ground force commander to engage in ground combat.

air reconnaissance. The acquisition of intelligence information employing visual observation and/or sensors in air vehicles. *See also* tactical reconnaissance and coordination of reconnaissance operations.

air reconnaissance liaison officer. An Army officer especially trained in air reconnaissance and imagery interpretation matters who is attached to a tactical air reconnaissance unit. This officer assists and advises the air commander and staff on matters concerning ground operations and informs the supported ground commander on the status of air reconnaissance requests.

air refueling (aerospace refueling). The capability to refuel combat and combat support aircraft in flight, which extends presence, increases range, and allows air forces to bypass areas of potential trouble.

airspace control element. A functional component of appropriate service control elements involved with coordination, integration, and regulation of the use of airspace.

airspace management. The coordination, integration, and regulation of the use of airspace of defined dimensions.

air strike. An attack on specific objectives by fighter, bomber, or attack aircraft on an offensive mission. May consist of several air organizations under a single command in the air.

air superiority. That degree of dominance in the air battle of one force over another which permits the conduct of operations by the former and its related land, sea, and air forces at a given time and place without prohibitive interference by the opposing force.

air support. Air forces of different services function as equal partners in airland combat. Air support assists the land battle with counterair

and interdiction operations, offensive air support, and tactical airlift operations which are conducted to achieve necessary air superiority and ensure that enemy forces cannot interfere with the operations of friendly air or ground forces. Air interdiction operations are conducted to destroy, isolate, neutralize, or delay the enemy's military potential before it can influence friendly operations. Offensive air support is that part of air operations which is conducted in direct support of land operations—it consists of tactical air reconnaissance, battlefield air interdiction, and close air support. *See also* air interdiction, and close air support.

air support operations center (ASOC). The air agency subordinate to the air command operations center, and collocated at the field army/corps or the highest national army formation deployed. Where different command or tasking structures at tactical levels exist, the functions of the ASOC may be carried out by another air tasking agency subordinate to the air command operations center. The ASOC may be responsible for tasking (depending on regional regulations) the air effort allocated to offensive air support of the appropriate land forces. The ASOC is a US Air Force agency that can include US Army and, if appropriate, US Navy representation.

air supremacy. The degree of air superiority wherein the opposing air force is incapable of effective interference.

air-to-ground operation system. An Army-Air Force system providing the ground commander with the means for receiving, processing, and forwarding the requests of subordinate ground commanders for air-support missions and for the rapid dissemination of information and intelligence.

air weapons controller. An individual especially trained for and assigned to the duty of employing and controlling air weapon systems against airborne and surface objects.

allocation. The translation of the apportionment into total numbers of sorties by aircraft type available for each operation/task. *See also* force allotment.

amphibious operation. An attack launched from the sea by naval and landing forces, embarked in ships or craft involving a landing on a hostile shore.

amphibious task force. The task organization formed for the purpose of conducting an amphibious operation. The amphibious task force always includes Navy forces and a landing force, with their organic aviation, and may include Military Sealift Command (MSC) provided ships and Air Force support when appropriate.

antiair warfare. A US Navy/US Marine Corps term to indicate that action required to destroy or reduce to an acceptable level the enemy air and missile threat. It includes such measures as the use of interceptors, bombers, antiaircraft guns, surface-to-air and air-to-air missiles, electronic countermeasures, and destruction of the air or missile threat both before and after it is launched. Other measures which are taken to minimize the effects of hostile air action are: cover, concealment, dispersion, deception (including electronic), and mobility.

antisubmarine warfare (ASW). ASW includes—by implication more than mission statement—the protection of friendly shipping against its greatest threat. Enemy submarines can operate submerged for extended periods of time which makes them less vulnerable to visual detection and tracking. Consequently, the major contribution of tactical aircraft in an ASW role will be against submarine supporting forces, port facilities, and surfaced submarines.

apportionment. The determination and assignment of the total expected effort by percentage and/or by priority that should be devoted to the various air operations and/or geographic areas for a given period of time. *See also* force allotment.

area of influence. A geographical area wherein an army commander is directly capable of influencing operations by maneuver or fire support systems which are normally under his control or command. (US Army term.)

area of interest. That area of concern to the commander, including the area of influence, areas adjacent thereto, and extending into enemy territory to the objectives of current or planned operations. This area also includes areas occupied by enemy forces who could jeopardize the accomplishment of the mission. (US Army term.)

area of operations (theater of operations). That portion of an area of war (theater) necessary for military operations.

area of responsibility. A defined area of land in which responsibility is specifically assigned to the commander of the area for the development and maintenance of installations, control of movement, and the conduct of tactical operations involving troops under the commander's control, along with parallel authority to exercise these functions.

armed reconnaissance. A mission with the primary purpose of locating and attacking targets of opportunity (i.e., enemy materiel, personnel, and facilities) in assigned general areas or along assigned ground communications routes and not for the purpose of attacking specific briefed targets.

Army air-ground system. The Army system which provides for interface between Army and tactical air support agencies of other services in the planning, evaluating, processing, and coordinating of air support requirements and operations. It is composed of appropriate staff members, including G-2 and G-3 air personnel, and necessary communications equipment.

Army corps. A tactical unit larger than a division and smaller than a field army. A corps usually consists of two or more divisions together with supporting arms and services.

Army group. A formation of land forces normally comprising two or more field armies or army corps under a designated commander.

assign. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization

controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel.

attach. To place units or personnel in an organization where such placement is relatively temporary. Subject to limitations imposed in the attachment order. The commander of the formation, unit, or organization receiving the attachment exercises the same degree of command and control thereover as over units and persons organic to the command. However, the responsibility for transfer and promotion of personnel normally is retained by the parent formation, unit, or organization. *See also* in support of.

attrition. The reduction of effectiveness of a force caused by loss of personnel and materiel.

attrition rate. A factor, normally expressed as percentage, reflecting the degree of losses of personnel or materiel due to various causes within a specified period of time.

B

battle coordination element. This element formalizes Army liaison at the tactical air control center. It integrates the theater ground situation into the tactical air support management process. The element also replaces and expands Army liaison element functions. The element assures that the tactical air control center and the air component commander are aware of the theater ground situation. For this reason, it serves as an expediter and interpreter of information—both from the Army to the Air Force and vice versa. As part of the planning process, the joint force commander provides an integrated battlefield air interdiction target list and reconnaissance requirements to the air component commander. The element, however, acts in those situations where time or lack of communications prevents consultation with the joint commander. In such cases the element distributes close-air-support sorties among the corps. It also consolidates and provides the corps' prioritized battlefield air

interdiction target lists and reconnaissance requirements to the air component commander for execution.

battlefield air interdiction. Air action against hostile surface targets which are in a position to directly affect friendly forces and which requires joint planning and coordination. While battlefield air interdiction missions require coordination in joint planning, they may not require continuous coordination during the execution stage. *See also* air interdiction.

C

campaign. A series of joint actions designed to attain a strategic objective in a theater of war.

campaign plan. A plan for a series of related military operations aimed to accomplish a common objective, normally within a given time and space.

center of gravity. The characteristic, capability, or locality from which a force derives its freedom of action, physical strength, or will to fight. It exists at the strategic, operational, and tactical levels of war. Army publications define it as: the sources of strength and balance from which a military force derives its freedom of action, physical strength, or will to fight. It may be the mass of the enemy force, the seam between two of its major force elements, a vital command and control center, its logistical base, its lines of communications, or something more abstract, such as military cohesion, morale, or the national will.

centralized control. In air defense, the control mode whereby a higher echelon makes direct target assignments to fire units.

chain of command. The succession of commanding officers from a superior to a subordinate through which command is exercised.

change of operational control. The date and time (Greenwich mean time/Greenwich civil time) at which the responsibility for operational

control of a force or unit passes from one operational control authority to another. *See also* transfer of authority.

close air support. Air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces. *See also* air interdiction.

Close-air-support operations, because of the fluidity of most battle situations, require responsive near-real-time reconnaissance of hostile targets that are in close proximity to friendly ground forces. These operations must be integrated with other tactical air operations such as fighter/attack and airlift and with movements of ground forces. Typical targets include enemy troop concentrations and mechanized/airmobile elements in the immediate battle area. Related tasks include battlefield surveillance contiguous to the main battle area, topographic update, and limited strike control.

What is close air support? Since the introduction of aircraft into modern warfare, principally World War II, the outcome of wars has depended on air and land forces working together effectively. Close air support (CAS) is air action requested by the ground commander against hostile ground targets requiring detailed integration of each mission with the fire and movement of the supported ground officers. The mobility of aircraft and their ability to concentrate firepower complements the fire support of the ground forces. Air power can strike targets that are inaccessible or invulnerable to ground forces. CAS can blunt an enemy attack and help friendly ground forces obtain and maintain the offensive.

To be effective, CAS must be timely and responsive. It must be of sufficient magnitude (including strategic systems such as the B-52), with accurate weapons delivery at the critical point. CAS is flown at the request of ground forces against a variety of targets which pose a threat or obstacle to planned and ongoing operations.

Relationship of CAS to other air operations. Air superiority must be achieved so that CAS aircraft can reach the battle area to make

direct attacks on enemy forces. The degree of superiority may vary from total supremacy to momentary, localized air superiority provided by fighter escort to the battle area. The greater the degree of air superiority, the greater the range of options that are available to support ground forces.

Interdiction is closely related to close air support. The effectiveness of interdiction operations in disrupting enemy supply routes, limiting reinforcement of enemy ground forces, and destroying/neutralizing follow-on echelons influences the size and intensity of CAS requirements. Battlefield air interdiction against echeloned forces on the attack must be closely integrated and may be inseparable from the CAS effort. Tactical reconnaissance is used to locate the enemys' positions, defenses, and in some cases, estimate their intentions.

Other joint operations which increase effectiveness of CAS are:

1. Suppression of Enemy Defenses. Suppression is enhanced by joint operations that include electronic countermeasures (ECM), electronic counter-countermeasures (ECCM), chaff, strike, drone support, and ground fire support. As enemy air defenses are countered, CAS can be employed more effectively against first echelon enemy forces. Both air and ground commanders must contribute the necessary firepower and electronic warfare to this end.

2. Joint Airspace Management. Procedures have been established to assure that friendly aircraft may enter, depart, or move within the area of operations without undue restrictions on their movements and without interfering with the effectiveness of the offensive and defensive capabilities of the joint force.

combat air patrol (CAP). CAP may be used to provide temporary air superiority over a given area to protect friendly air or ground forces from attack by air during the conduct of their operations. CAP can patrol a general area, defend a localized area, or could be positioned between the expected threat and the friendly forces to act as a fighter screen or barrier. Regardless of the positioning, the objective of the CAP remains the same: intercept and destroy enemy aircraft before they can pose a threat to friendly forces. *See also* air defense.

cohesion. The principle of establishing and maintaining the war-fighting spirit and capability of a force to win; the cement that holds a unit together through the trials of combat and is critical to the fighting effectiveness of a force.

combatant command. One of the unified or specified commands established by the president. Not to be confused with the command authority titled "combatant command" exercised by commanders of unified and specified commands.

combat area. A restricted area (air, land, or sea) which is established to prevent or minimize mutual interference between friendly forces engaged in combat operations.

combat forces. Those forces whose primary missions are to participate in combat.

combat-maneuver forces. Those forces which use fire and movement to engage the enemy with direct-fire weapons systems, as distinguished from those forces which engage with indirect fire or otherwise provide combat support and combat service support. These elements are primarily infantry, armor, cavalry (air and armored), and attack helicopter units.

combat power. The outcome of battle is decided by the application of combat power at the decisive place and time. Combat power is a complex combination of tangible and intangible factors. Force ratios and the effects of firepower and maneuver are significant elements of combat power, but its actual development depends on the manner in which that potential is applied and is largely a function of other intangible factors which have historically differentiated military forces. *See also* firepower, maneuver, and protection.

combat readiness. Synonymous with "operational readiness," with respect to missions or functions performed in combat.

combat service support. The assistance provided operating forces primarily in the fields of administrative services, chaplain services, civil affairs, finance, legal services, health services, military police,

supply, maintenance, transportation, construction, acquisition and disposal of real property, facilities engineering, topographic and geodetic engineering functions, food service, graves registration, laundry, dry cleaning, bath, property disposal, and other logistic services.

combat support elements. Those elements whose primary missions are to provide support to the combat forces and which are a part, or are prepared to become a part, of a theater, command, or task force formed for combat operations.

combat zone. 1. That area required by combat forces for the conduct of operations. 2. The territory forward of the Army rear area boundary.

combined. Between two or more forces or agencies of two or more allies. (When all allies or services are not involved, the participating nations and services shall be identified, i.e., combined navies.)

combined force. A military force composed of elements of two or more allied nations.

combined operation. An operation conducted by forces of two or more allied nations acting together for the accomplishment of a single mission.

combined staff. A staff composed of personnel of two or more allied nations.

combined theater. A theater in which US and allied forces, by agreement, are engaged in combat operations against a common enemy.

command. 1. The authority that a commander in the military service lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes

responsibility for health, welfare, morale, and discipline of assigned personnel. 2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. 3. A unit or units, an organization, or an area under the command of one individual. (In NATO: 1. The authority vested in an individual of the armed forces for the direction, coordination, and control of military forces. 2. An order given by a commander; that is, the will of the commander expressed for the purpose of bringing about a particular action. 3. A unit or units, an organization, or an area under the command of one individual.)

command and control (C^2). The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. C^2 functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures which are employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

command and control system. The facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned.

command, control, and communications (C^3). The process of and the means for the exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the commander's mission. C^3 functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures that are employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the commander's mission.

command, control, and communications countermeasures (C^3CM). The integrated use of operations security, military deception, jamming, and physical destruction, supported by intelligence, to deny

information to, influence, degrade, or destroy enemy C^3 capabilities and to protect friendly C^3 against such actions.

commander in chief. 1. The supreme commander of all the armed forces of a nation. 2. The officer commanding a major armed force.

communications zone. Rear part of a theater of operations (behind but contiguous to the combat zone) that contains the lines of communications, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces.

component commander. The senior service commander of either air, naval, or land forces (e.g., land forces component commander).

concept. A notion or statement of an idea, expressing how something might be accomplished, that may lead to an accepted procedure.

concept of operations. A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the latter case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose.

control. Authority which may be less than full command exercised by a commander over part of the activities of subordinate or other organizations.

control and reporting center. An element of the US Air Force tactical air control system, subordinate to the tactical air control center, from which radar control and warning operations are conducted within its area of responsibility.

coordinating authority. A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more services, or two or more forces of

the same service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority.

coordination of reconnaissance operations. Air Force component commanders centrally manage and coordinate aerospace reconnaissance and surveillance missions to achieve economy of force while providing necessary intelligence laterally to other component commanders and rearward to the joint force commander. This coordination process is accomplished within and among the air forces and other component staffs and provides the intelligence upon which the joint force commander bases his strategy. The effectiveness of reconnaissance operations contributes to the success of all tactical combat operations.

counterair. Air operations conducted to attain and maintain a desired degree of air superiority by the destruction or neutralization of enemy forces. Both air offensive and air defensive actions are involved. The former range throughout enemy territory and are generally conducted at the initiative of the friendly forces. The latter are conducted near to or over friendly territory and are generally reactive to the initiative of the enemy air forces. Air operations conducted to attain and maintain a desired degree of air superiority are called counterair operations—see below.

The degree of air superiority achievable or needed may range from full control over the entire area by the friendly forces to local control in a specific battle area. It may also vary by time, from temporary control in an area, to prolonged periods depending on the type and amount of force that is applied. In the absence of an enemy offensive air capability either by aircraft or surface-to-air defensive systems, security of friendly forces from air attack is gained by default. In most instances, however, friendly tactical air operations will be challenged by hostile air attack, surface-to-air missiles, and/or air defense artillery. These enemy weapons will normally be part of an elaborate

and well-integrated air defense system designed to deny us air superiority. The types and degree of enemy air defenses will influence what actions are necessary to achieve air superiority.

counterair operations. Employment of reconnaissance resources in support of our counterair objectives will be related to offensive actions. These actions will be conducted to seek out and destroy enemy air power where return is likely to be highest. Typical targets will include aircraft, airfields, tactical missile complexes, command and control facilities, support and storage facilities, and surface-to-air defensive systems. Counterair strikes normally will be initiated at the onset of hostilities to gain an immediate advantage in the air battle. Therefore, much of the targeting for these actions can be preplanned based on data obtained during peacetime. However, reconnaissance forces are required to penetrate enemy territory during all weather conditions to acquire the latest information concerning the status of fixed targets and to search for and acquire mobile targets that pose a threat to friendly forces. Transient and fleeting targets such as mobile surface-to-air missiles (SAM) and antiaircraft artillery (AAA) facilities present the most difficult challenge since data must be relayed in near real time to permit immediate destruction of these targets by strike forces.

Types of counterair operations. Counterair operations include operations conducted over enemy and friendly territory. Operations over enemy territory may be the most effective contributor to air superiority because they destroy the enemys' air power in their territory before they can threaten friendly forces. Counterair operations over friendly territory tend to be reactive in nature. Nonetheless, these operations can be highly effective in eliminating or neutralizing the enemys' offensive air actions.

The ratio of forces assigned to counter an enemy attack on friendly territory and those committed against enemy forces in their own territory will depend largely on the level of the enemy air threat and the vulnerability of friendly forces to air attack. Offensive pressure forces enemies to withhold a portion of their air power for defense of

their own territory, thus reducing their offensive numerical strength where actions over friendly territory are reactive to the level of enemy activity over or near friendly skies.

D

decentralized control. In air defense, the normal mode whereby a higher echelon monitors unit actions, making direct target assignments to units only when necessary to ensure proper fire distribution or to prevent engagement of friendly aircraft.

deception. Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce him to react in a manner prejudical to his interests.

deep battle. The deep battle is designed to support the commander's basic scheme of maneuver by disrupting enemy forces in depth. (US Army term.)

defensive counterair. Those operations mounted to nullify or reduce the effectiveness of an attack by enemy air power.

defensive counterair operations. Air defense operations are conducted to nullify or reduce the effectiveness of an attack by enemy air forces. The enemy's air potential is the primary factor to be considered in establishing air defense requirements. An effective air defense system consists of active measures and passive measures.

delaying operation. An operation in which a force under pressure trades space for time by slowing down the enemy's momentum and inflicting maximum damage on the enemy without becoming decisively engaged.

destroyed. A condition of a target so damaged that it cannot function as intended nor be restored to a usable condition.

destruction. A type of adjustment for destroying a given target.

destructive means. Military action employed to physically damage or destroy surface-to-air systems or personnel.

deterrence. The prevention from action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction.

direct support. The support provided by a unit or formation, not attached or under command of the supported unit or formation, but required to give priority to the support required by that unit or formation. *See also* assign and in support of for related terms.

doctrine. Fundamental principles by which military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.

E

echelon. A separate level of command.

echelons above corps (EAC). Army headquarters and organizations that provide the interface between the theater commander (joint or combined) and the corps for operational matters; and between the continental United States, host nation, and deployed corps for combat service support (CSS). Operational EAC may be US only or allied headquarters where EAC for CSS will normally be a US national organization. (US Army term.)

electronic combat (EC). Electronic combat (EC) is action taken in support of military operations against the enemy's electromagnetic capabilities. EC includes electronic warfare (EW); command, control, and communications countermeasures (C^3CM); and suppression of enemy air defenses (SEAD).

electronic warfare. Military action involving the use of electromagnetic energy to determine, exploit, reduce, or prevent hostile use of the electromagnetic spectrum and action which retains friendly use of the electromagnetic spectrum. There are three divisions within

electronic warfare: electronic warfare support measures, electronic countermeasures, and electronic counter- countermeasures.

electronic warfare elements. All radiated electronics can be countered. The procedure is to detect quickly the frequencies and modulation techniques of the enemy equipment and by combinations of jamming, deception, tactics, and weapons degrade the effectiveness of that equipment. The three elements of electronic warfare are defined as:

Electronic support measures (ESM). The interception, location, and analysis of enemy electromagnetic emitters to plan or aid our military operations. The emitter data can be used for aircrew warning, avoidance tactics, homing, countermeasures or counter-countermeasures.

Electronic countermeasures (ECM). The jamming or deceiving of hostile electromagnetic emitters. Such targets can be enemy command and control, intelligence, or weapons systems dependent on electronic control of emissions.

Electronic counter-countermeasures (ECCM). This is action against enemy ECM to ensure effective use of the electromagnetic spectrum. It encompasses the tactics and special equipment used to allow our electronic dependent weapon systems or emitters to work effectively when the enemy is employing ECM.

element. The smallest subdivision of a military unit that can be tactically maneuvered independently.

elements of national power. All the means that are available for employment in the pursuit of national objectives.

F

field army. Administrative and tactical organization composed of a headquarters, certain organic Army troops, service support troops, a variable number of corps, and a variable number of divisions.

field echelons. Separate levels of command operating within the combat zone (e.g., army group, field army).

firepower. Firepower must be massed against the enemy at the right time and place. It involves positioning weapons systems in the hands of well-trained people in locations where these systems can be employed effectively. Firepower is essential to a successful maneuver. *See also* combat power.

fire support. Assistance to those elements of the ground forces which close with the enemy, such as infantry and armor units, rendered by delivering artillery and mortar fire, naval gunfire, and CAS. Tanks, air defense artillery, and Army aviation may also provide fire support.

fire support coordination. The planning and executing of fire so that targets are covered adequately by a suitable weapon or group of weapons.

fire support coordination line. A line established by the appropriate ground commander to ensure coordination of fire not under his control but which may affect current tactical operations. The fire support coordination line is used to coordinate the firing of air, ground, or sea weapons systems, using any type of ammunition, against surface targets. The fire support coordination line should follow well-defined terrain features. The establishment of the fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack target elements forward of the fire support coordination line, without prior coordination with the ground force commander, provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate ground force commander.

fire support element. A functional portion of a force tactical operations center that provides centralized targeting, coordination, and integration of fire on surface targets. This element is staffed by personnel from the field artillery headquarters or field artillery staff

section of the force and representatives of other fire support means. (US Army term.)

fire support plan. This plan provides for the employment of mortars, field artillery, naval gunfire, and air-delivered weapons in support of the operations plan.

Fleet Marine Force. A balanced force of combined arms comprising land, air, and service elements of the US Marine Corps. A Fleet Marine Force is an integral part of a US fleet and has the status of a type command.

force allotment. The mobility, flexibility, and responsiveness of tactical air forces enable them to perform multiple, diverse combat tasks. Since there will rarely be sufficient resources to meet all demands, the problem becomes one of dividing resources so they can do the most good.

The joint force commander apportions air resources to meet overall objectives. In dividing or apportioning total air resources among the various tactical functions, decisions must be made at the highest practical level, normally the joint force commander. This ensures unity of effort across the broad spectrum of the entire operation.

The air component commander allocates sorties to fulfill tasks. When priorities have been determined, the actual allocation of sorties to perform specific tasks is made by the air component commander.

Once air resources have been allocated for CAS, the ground force commander determines which targets will be attacked. Requests for CAS strikes may originate at any level of command within the supported land forces. After evaluating these requests, the Army commander then decides which targets to strike and their relative priorities. Some of the allocated sorties can be used for preplanned strikes against known targets, and some portion of CAS assets may be held in reserve and placed on alert to fill immediate CAS requests for which specific target makeup and location cannot be determined in advance. Air sorties on immediate alert may be used to quickly

reinforce sagging defenses or to gain the maximum from friendly force advancement.

The organization and equipment required for the Air Force to plan, direct, and control tactical air operations and coordinate CAS with surface forces is the tactical air control system (TACS). At the heart of this system is the tactical air control center (TACC), which assists in developing target lists, processing CAS requests, determining force requirements, and publishing the detailed air tasking orders necessary for mission execution.

forward air controller. An officer (aviator/pilot) member of the tactical air control party who, from a forward ground or airborne position, controls aircraft in close air support of ground troops.

forward air control post. A highly mobile US Air Force tactical air control system radar facility subordinate to the control and reporting center and/or post used to extend radar coverage and control in the forward combat area.

forward edge of the battle area. 1. The foremost limits of a series of areas in which ground combat units are deployed, excluding the areas in which the covering or screening forces are operating, designated to coordinate fire support, the positioning of forces, or the maneuver of units. 2. The forward limit of the main battle area.

forward line of own troops. A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time.

forward operating base. An airfield used to support tactical operations without establishing full support facilities. The base may be used for an extended time period. Support by a main operating base is required to provide backup support for a forward operating base.

fragmentary order (frag). An abbreviated form of an operation order, usually issued on a day-to-day basis which eliminates the need for restating information contained in a basic operation order. It may be issued in sections.

G

G-2 air. An assistant on the staff of each corps, army group, and theater headquarters who is especially trained in the capabilities and limitations of tactical air reconnaissance and photographic reconnaissance in airland operations.

G-3 air. An assistant G-3 (officer in the operations and training section) on the staff of each division, corps, army, army group, and theater headquarters who is especially trained in the methods of employment of air effort.

general support. That support which is given the supported force as a whole and not to any particular subdivision thereof.

general war. Armed conflict between major powers in which the total resources of the belligerents are employed and the national survival of a major belligerent is in jeopardy.

Greenwich mean time. Mean solar time at the meridian of Greenwich, England, used as a basis for standard time throughout the world. Normally expressed in four numerals 0001 through 2400. It is expressed as GMT or Zulu (Z) time.

ground liaison officer. An officer especially trained in air reconnaissance and/or offensive air support activities. These officers are normally organized into teams under the control of the appropriate ground force commander to provide liaison to air force and naval units engaged in training and combat operations.

guidance. Policy, direction, decision, or instruction having the effect of an order when promulgated by a higher echelon.

I

in support of. Assisting or protecting another formation, unit, or organization while remaining under original control.

intelligence. The product resulting from the collection, processing, integration, analysis evaluation, and interpretation of available information concerning foreign countries or areas.

interdict. To isolate, or seal off an area by any means. To deny the use of a route of approach. *See also* air interdiction.

interdiction. An action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces.

interoperability. The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.

intertheater airlift. The air movement of personnel and materiel between the continental United States (CONUS) and overseas areas, normally over long distances. (Airlift between theaters exclusive of that airlift between CONUS theaters.)

intratheater airlift. The air movement of personnel and materiel within an area, command, or theater of operations.

J

joint. Connotes activities, operations, organizations, etc., in which elements of more than one service of the same nation participate.

joint force. A general term applied to a force which is composed of significant elements of the Army, the Navy or Marine Corps, and the Air Force, or two or more of these services operating under a single commander authorized to exercise unified command or operational command over joint forces.

joint maritime operations (air). The employment of joint force air efforts to achieve military objectives in the maritime environment.

joint operations. An operation carried on by two or more of the services of the United States.

joint operations center. A jointly manned facility of a joint force commander's headquarters established for planning, monitoring, and guiding the execution of the commander's decisions.

joint staff. 1. The staff of a commander of a unified or specified command, or of a joint task force, which includes members from the services comprising the force. These members should be assigned in such a manner as to ensure that the commander understands the tactics, techniques, capabilities, needs, and limitations of the component parts of the force. Positions on the staff should be divided so that service representation and influence generally reflect the service composition of the force. 2. The staff of the Joint Chiefs of Staff as provided for under the National Security Act of 1947, as amended.

joint suppression of enemy air defenses (JSEAD). JSEAD is conducted to increase the overall effectiveness of friendly airland operations. Theaterwide JSEAD is planned by the air component commander against specific surface-to-air defenses. Local JSEAD operations are conducted as part of the attack of specific ground targets. *See also* electronic warfare.

joint task force. A force composed of assigned or attached elements of the Army, the Navy or the Marine Corps, and the Air Force, or two or more of these services, which is constituted and so designated by the secretary of defense or by the commander of a unified command, a specified commander, or an existing joint task force.

joint/unified commander. Commander of the combined/unified/joint force.

L

land campaign plan. A long-range plan developed by the land component command to support the theater campaign plan. The plan

contains amplifying information on the employment of Army forces in sustained land combat operations in accordance with the theater commander's concept.

land component. The land portion of the combined/unified/joint force.

land component commander. The commander of the land portion of the combined/unified/joint force.

limited war. Armed conflict short of general war, exclusive of incidents, involving the overt engagement of the military forces of two or more nations.

lines of communications. All the routes—land, water, and air—which connect an operating military force with a base of operations and along which supplies and military forces move.

logistics. The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with (1) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; (2) movement, evacuation, and hospitalization of personnel; (3) acquisition or construction, maintenance, operation, and disposition of facilities; and (4) acquisition or furnishing of services.

M

main attack. The principal attack or effort into which the commander throws the full weight of the offensive power at his disposal. An attack directed against the chief objective of the campaign or battle.

main battle area (MBA). That portion of the battlefield in which the decisive defensive battle is fought to defeat the enemy attack. Designation of the MBA may include the use of lateral and rear boundaries. Referred to in combined usage as the defense area. For any particular command, this area extends from the forward edge of

the battle area (FEBA) to the rear boundaries of those units comprising its main defensive forces.

maneuver. Maneuver is the concentration of or dispersion of troops to achieve a position of advantage in relation to the enemy to produce results that would otherwise be more costly in men and materials. *See also* combat power.

maritime interdiction. Sea control operations. The employment of naval forces, supported by land and air forces, as appropriate, to achieve military objectives in vital sea areas. Such operations include destruction of enemy naval forces, suppression of enemy sea commerce, protection of vital sea lanes, and establishment of local military superiority in areas of naval operations.

maritime operations. Actions performed by forces on, under, or over the sea to gain or exploit control of the sea or to deny its use to the enemy.

mass. 1. The concentration of combat power. 2. To concentrate or bring together, as to mass the fire of multiple weapons or units.

military strategy. The art and science of employing the armed forces of a nation to secure the objectives of national policy by the application of force or the threat of force. *See also* strategy and national strategy.

mission. 1. The task, together with the purpose, which clearly indicates the action to be taken and the reason therefore. 2. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. 3. The dispatching of one or more aircraft to accomplish one particular task.

mobility. A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission.

movement control. The planning, routing, scheduling, and control of personnel and supply movements over lines of communications; also an organization responsible for these functions.

N

national command. A command that is organized by, and functions under the authority of, a specific nation.

national command authorities. The president and secretary of defense or their duly deputized alternates or successors.

national strategy. The art and science of developing and using the political, economic, and psychological powers of a nation, together with its armed forces, during peace and war to secure national objectives. *See also* strategy.

naval component. The naval portion of the combined/unified/joint force.

naval component commander. The commander of the naval portion of the combined/unified/joint force.

nuclear warfare. Warfare involving the employment of nuclear weapons.

O

offensive air support (OAS). OAS is a NATO term for that part of tactical air support, conducted in direct support of land operations, that consists of tactical air reconnaissance (TAR), battlefield air interdiction, and close air support which are conducted in direct support of land operations.

offensive counterair. Those operations mounted to destroy, disrupt, or limit enemy air power as close to its source as possible. *See also* counterair.

operation. A military action or the carrying out of a strategic, tactical, service, training, or administrative military mission; the process of carrying on combat, including movement, supply, attack, defense, and maneuvers needed to gain the objectives of any battle or campaign.

operational art. The employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations. Operational art translates strategy into operational, and ultimately, tactical action. No specific level of command is concerned with the operational art.

operational command. Those functions of command involving the composition of subordinate forces, the assignment of tasks, the designation of objectives, and the authoritative direction necessary to accomplish the mission. It does not include such matters as administration, discipline, internal organization, and unit training except when a subordinate commander requests assistance. The term is synonymous with operational control and is uniquely applied to the operational control exercised by the commanders of unified and specified commands over assigned forces. (In NATO: The authority granted to a commander to assign missions or tasks to subordinate commanders, to deploy units, to reassign forces, and to retain or delegate operational and/or tactical control as may be deemed necessary. It does not of itself include responsibility for administration or logistics. It may also be used to denote the forces assigned to a commander.)

operational control. The authority delegated to a commander to direct assigned forces so that the commander may accomplish specific missions or tasks which are usually limited by function, time, or location; to deploy units concerned; and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistic control.

operational level of war. The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces and provide the means by which tactical successes are exploited to achieve strategic objectives.

operation order. A directive issued by a commander to subordinate commanders for the purpose of effecting the coordinated execution of an operation.

operation plan. A plan for a single or series of connected operations to be carried out simultaneously or in succession. It is usually based upon stated assumptions and is in the form of a directive employed by higher authority to permit subordinate commanders to prepare supporting plans and orders. It implements operations derived from the campaign plan. When the time and/or conditions under which the plan is to be placed in effect occur, the plan becomes an operation order.

order of battle. The identification, strength, command structure, and disposition of the personnel, units, and equipment of any military force.

organization for the strategic and operational direction of combatant forces. With the advice of the Joint Chiefs of Staff, the president, through the secretary of defense establishes unified or specified combatant commands for the performance of military missions and determines the force structure of such combatant commands. Commanders of unified and specified commands are responsible to the president and the secretary of defense for the accomplishment of the military missions assigned to them. The chain

of command runs from the president to the secretary of defense, through the Joint Chiefs of Staff, to the commanders of unified, specified, and joint commands. Orders to such commanders will be issued by the president or the secretary of defense, or by the Joint Chiefs of Staff by authority and direction of the secretary of defense. These commanders shall have full operational command over the forces assigned to them and shall perform such functions as are assigned by competent authority.

P

passive air defense. All measures, other than active defense, taken to minimize the effects of hostile air action. Passive air defense consists of those measures that do not involve the use of weapons systems. It includes radar coverage, warning systems, cover, concealment, deception, camouflage, dispersion, protective construction such as hardened sites, frequent movement, and personnel training. It is seldom possible to stop an attack completely, so passive measures might very well determine the success or failure of an enemy attack. *See also* air defense and active air defense.

preplanned mission request. A request for an air strike on a target which can be anticipated sufficiently in advance to permit detailed mission coordination and planning.

principle of full utilization of forces. It is essential that there be full utilization and exploitation of the weapons, techniques, and intrinsic capabilities of each of the military departments and services in any military situation where this will contribute effectively to the attainment of overall objectives. To effect this, the *Functions Paper* (DOD Directive 5100.1) assigns to the services both primary functions and collateral functions.

principle of support. The forces developed and trained to perform the primary functions assigned to one service by DOD Directive 5100.1 shall be employed to support and supplement the other services in carrying out their primary functions wherever and whenever such

participation will result in increased effectiveness and will contribute to the accomplishment of the overall military objectives.

protection. This refers to action a force takes to continue the fight over an extended period and to prevail in the end. Protection has two components—all actions taken to counter the enemy's firepower and maneuver and actions that keep forces healthy, maintain their fighting morale, and protect equipment and supplies. *See also* combat power.

psychological operations. A planned psychological activity in peace and war directed toward enemy, friendly, and neutral audiences in order to create attitudes and behavior favorable to the achievement of political and military objectives.

R

rear area. The area in the rear of combat and forward areas. Combat echelons from the brigade through the field army normally designate a rear area. For any particular command, that area extending rearward from the rear boundary of their next subordinate formations or units deployed in main battle or defense area to their own rear boundary. It is here that reserve forces of the echelon are normally located. In addition, combat support and combat service support units are activities located in this area.

rear battle. Those actions, including area damage control, taken by all units (combat, combat support, combat service support, and host nation) singly or in a combined effort, to secure the force, neutralize or defeat enemy operations in the rear area, and ensure freedom of action in the deep and close-in battles.

rear combat zone. In combined usage, the rear part of the combat zone required by field echelons to conduct combat operations. The territory between the corps rear boundary and the rear boundary of the highest combat land operational echelon (e.g., army group).

rear echelon. Generic term used to describe all elements normally located in the rear area.

reconnaissance. A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy; or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.

roles. The broad and enduring purposes for which a service was established by the Congress.

rules of engagement. 1. Directives issued by competent military authority which specify the circumstances and limitations under which forces will initiate and/or continue combat engagement with other forces encountered. 2. In air defense, directives that delineate the circumstances under which weapons can fire at an aircraft. The right of self-defense is always preserved.

S

S-3 air. *See* G-3 air.

scheme of maneuver. That part of a plan to be executed by a maneuver force to achieve its assigned objective or to hold its assigned area.

sea power interdiction. The capability to conduct maritime interdiction has been consistently maintained since the days of Gen William ("Billy") Mitchell. Tactical air force crews and aircraft stand ready to perform this function anywhere, anytime, and at the level necessary. New reconnaissance and weapons delivery systems will further enhance existing capabilities. *See also* maritime interdiction.

search and rescue. The use of aircraft, surface craft, submarines, specialized rescue teams, and equipment to search for and rescue personnel in distress on land or at sea.

sea surveillance. Visual detection of shipping is generally limited to 25 nautical miles either side of the observer's track in good visibility conditions. Several tactical aircraft have sensors with night and all-weather capabilities. Some have electro-optical systems like the

target identification system electro-optical (TISEO) to aid in visual acquisition and identification.

Once potential targets have been located, the appropriate collateral function can be performed by employing the proper force/weapon mix. Guided munitions with a standoff capability significantly reduce the number of sorties required to achieve a specified level of damage.

situation map. A map showing the tactical or administrative situation at a particular time.

sortie. An operational flight by one aircraft.

special operations. Operations conducted by specially trained, equipped, and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible.

special operations forces (SOF). Forces which include special forces (SF), range, psychological operations (PSYOPS), civil affairs, and special operations aviations units. SOF perform missions requiring specialized capabilities across the full spectrum of conflict in a variety of operational environments.

specified command. A command which has a broad continuing mission and that is established and so designated by the president through the secretary of defense with the advice and assistance of the Joint Chiefs of Staff. It normally is composed of forces from one service.

spectrum of war. A term which encompasses the full range of conflict—cold, limited, and general war.

strategic airlift. The continuous or sustained movement of units, personnel, and materiel in support of Department of Defense agencies between area commands, between CONUS and overseas areas, or

within an area command. Strategic airlift resources possess a capability to airland or air-drop troops, supplies, and equipment for augmentation of tactical forces when required.

strategic air defense operation. One that uses air defense forces independently or with other air, ground, or naval forces to detect, identify, intercept, and, if necessary, destroy enemy air vehicles attempting to penetrate the defined air space of North America.

strategic air warfare. Air combat and supporting operations designed to effect, through the systematic application of force to a selected series of vital targets, the progressive destruction and disintegration of the enemy's war-making capacity to a point where the enemy no longer retains the ability or the will to wage war.

strategic concept. The course of action accepted as the result of the estimate of the strategic situation. It is a statement of what is to be done expressed in broad terms sufficiently flexible to permit its use in framing the basic undertakings that stem from it.

strategic level of war. The level of war at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives. Activities at this level establish national and alliance military objectives and sequence initiative, define limits and assess risks for the use of military and other instruments of power, develop global or theater war plans to achieve those objectives and provide armed forces and other support in accordance with the strategic plan.

strategic mission. A mission directed against one or more of a selected series of enemy targets with the purpose of progressive destruction and disintegration of the enemy's war-making capacity and the will to make war. As opposed to tactical operations, strategic operations are designed to have a long-range, rather than immediate, effect on the enemy and their military forces.

strategic offense. The mission that consists of operations directed at vital targets of an enemy nation. The purpose of strategic offense is to destroy the enemy's war-making capacity or will to fight.

strategic plan. A plan for the overall conduct of a war.

strategy. The art and science of developing and using political, economic, psychological, and military forces as necessary during peace and war to afford the maximum support to policies in order to increase the probabilities and favorable consequences of victory and to lessen the chances of defeat. *See also* military strategy and national strategy.

subordinate unified command. A subordinate command established by an existing unified command with a broad continuing mission and with significant assigned components of two or more services. The subordinate unified commander has functions, authorities, and responsibilities within the area of responsibility which are similar to a unified commander. *See also* unified command.

suppression of enemy air defenses. That action which neutralizes, destroys, or temporarily degrades enemy air defenses in a specific area by physical attack and/or electronic warfare.

surveillance. The systematic observation of aerospace, surface, or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means.

The most current tactical air force (TAF) systems—for example, tactical electronic reconnaissance system (TEREC), and UPD-4 side-looking airborne radar (SLAR)—are used to maintain and update a data base on areas along political borders. These are all-weather systems. The TEREC has a near-real-time capability. Routine surveillance of specific areas can be performed using visual or optical means from the RF-4C.

National systems, such as the SR-71, U-2, and RC-135, collect surveillance information that can be made available to theater commanders in peacetime as well as during a conflict. The

information ranges from optical photography to radar and SIGINT data.

synchronization. The arrangement of battlefield activities in time, space, and purpose to maximize combat power at the decisive point. It requires understanding the complementary and reinforcing effects of combining all available combat means, the ways in which friendly and enemy capabilities interact, mastery of space-time relationships, and unambiguous unity of purpose. The goal of synchronization is to use every asset where, when, and in the manner in which it will contribute most to superiority at the point of decision. Putting all the available forces together at the correct place and time to achieve victory. *See also* combat power. (US Army term.)

T

tactical air control center. The principal air operations installation (land- or ship-based) from which all aircraft and air warning functions of tactical air operations are controlled.

tactical air control party. A subordinate operational component of a tactical air control system designed to provide air liaison to land forces and for the control of aircraft.

tactical air force. An air force charged with carrying out tactical air operations in coordination with ground or naval forces.

tactical airlift. The airlift that provides the immediate and responsive air movement and delivery of combat troops and supplies directly into objective areas through air landing, extraction, airdrop, or other delivery techniques; and the air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements (intertheater airlift).

tactical air reconnaissance. The use of air vehicles to obtain information concerning terrain, weather, and the disposition, composition, movement, installation, lines of communication, electronic, and communication emissions of enemy forces. Also

included are artillery and naval gunfire adjustment and systematic and random observation of ground battle area, targets, and/or sectors of airspace.

Tactical aerospace reconnaissance forces are employed to provide all-weather battlefield reconnaissance or surveillance for ground combat forces and naval forces. Enemy movements and concentrations are located and maintained under surveillance. Targets which require immediate command attention are reported by near-real-time transmission through the appropriate TACS element or other agencies for necessary action by air, ground, and naval commanders. The FEBA and contiguous border areas are covered by tactical air reconnaissance and surveillance forces to provide detailed information concerning location of enemy field weapons, force composition, logistics, and intentions to ground commanders. This task requires full-time operation regardless of weather conditions, and requires coverage of large areas of the theater in near real time. Information concerning friendly forces and weather reconnaissance are provided on a continuing basis. Map updating of the conflict area is accomplished as required using manned or unmanned vehicles.

Sea reconnaissance and surveillance are integral parts of sea-lane interdiction, antisubmarine warfare, protection of shipping and aerial mine-laying operations. Tactical air reconnaissance and surveillance operations can provide information on enemy maritime forces in support of air force offensive maritime operations or in conjunction with friendly naval operations.

tactical air support. Air operations carried out in coordination with surface forces and which directly assist land or maritime operations.

tactical air support of land operations (TASLO). Those activities that are conducted to influence a land battle. The activities include the following basic air operations: counterair, air interdiction, offensive air support, and tactical air support.

tactical air support of maritime operations (TASMO). All tactical air operations performed in the maritime environment by nonorganic

land-based/shipborne aircraft to assist the naval commander in completing the mission.

tactical level of war. The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangements and maneuver of combat elements in relation to each other and the enemy to achieve combat objectives.

tactical operations center. A physical grouping of those elements of an Army general and special staffs concerned with the current tactical operations and the tactical support thereof.

tactical reconnaissance (air). Tactical reconnaissance sensors are carried by the manned RF-4C and the AQM-34 series remotely piloted vehicles (RPV). The primary sensors are optical and infrared (IR), and are employed from low through medium altitudes. RPVs can fly either a preprogrammed route or flight headings commanded from an airborne control station. They are employed to augment manned systems and can be used when political situations or the threat environment dictate.

Manned systems use a variety of sensors and visual techniques to search specific areas for tactical targets. They are used against both fixed and mobile targets. Information is disseminated to the decision maker to assist in determining target priorities and in making the decision to launch attack sorties or to divert airborne aircraft. When target types are known and an accurate position is needed, a commander may pass strike authority to attack to SCAR aircraft. In this case the reconnaissance aircraft passes target identification and location directly to attack aircraft or marks/designates the target for the attack aircraft.

Strategic assets have the capability to provide reconnaissance information based on IR, optical, or radar imagery. A capability also exists to provide SIGINT to the TACS in near real time.

tactical reconnaissance (ground). The US Army contributes a surveillance capability with near-real-time data dissemination. For

example, Guardrail provides a corps commander with the capability of intercepting transmissions of enemy regimental, division, and Army command post logistical centers.

"Quick Look" is an airborne noncommunications ESM system capable of locating the radars of ZSU-23-4, SA-4, SA-6, and SA-8 air defense systems. Additional information is available from SLAR, IR, and photographic systems carried on the OV-1D Mohawk. SLAR uses a moving target indicator to detect moving targets beyond the FEBA. Both the SLAR and IR systems have a data-link capability. Although the SLAR can detect targets beyond the effective range of artillery, the information is used to determine what the enemy has in the second echelon and where the main thrust of follow-on attacks may be located.

tactics. The employment of units in combat; the ordered arrangement and maneuver of units in relation to each other and/or to the enemy in order to utilize their full potentialities.

target nomination (interdiction). The joint force commander initiates the interdiction program and outlines the broad plan of operations. This plan describes the general interdiction area, the degree of neutralization required, what effects are desired, and the relative priority of the tasks.

Based on this guidance the air component commander executes the air interdiction campaign. An interdiction campaign is directed against the enemy's transportation systems, concentration points, communication facilities, stockpiled supplies, and industrial facilities producing these supplies. The geography of the area, together with the enemy capabilities and the friendly objective, will determine the interdiction pattern. The detailed integration of each air interdiction mission with the fire and movement of friendly ground forces is not normally required because these strikes are normally not conducted near friendly forces. However, the Soviet concept of employment of armored forces calls for deeply echeloned forces directed at a narrow section of friendly defenses to force a breakthrough and exploit the penetration. This concept tends to reduce the distinction between

close air support and interdiction. To stop the advance of these echeloned attacks, air support is needed from the point of contact to the depth of the enemy thrust directed at friendly positions. These operations, sometimes referred to as battlefield air interdiction, must be closely coordinated with the ground commander. When air interdiction is conducted by both US Air Force and other air forces, the separate operations must be integrated to ensure a common plan of action and to preclude strike interference and/or effort duplication. Timely and accurate intelligence is a prerequisite to successful interdiction. Careful analysis can identify vulnerable elements in the enemy's forces. Tactical air reconnaissance and intelligence are used by the air commander when selecting air interdiction targets and by the ground commander for long-range artillery target selection. The air commander must know the length of the enemy's supply lines, the time it takes for supplies to reach the battle area, and the points where personnel and materiel will most likely concentrate. These concentration points, whether supply depot/storage areas, troop staging areas, or transportation centers where rerouting and reloading are done, will provide the most lucrative targets. Based on this intelligence, interdiction targets are nominated for attack and are prioritized in accordance with priorities established by the joint and air component commanders. *See also* air interdiction and air interdiction operations.

theater. The geographical area outside CONUS for which a commander of a unified, specified, or joint command has been assigned military responsibility.

theater airlift (tactical airlift). The mission consisting of airlift operations that provide immediate and responsive air movement and delivery of combat troops and supplies directly into objective areas by air landing, airdrop, extraction, or other delivery techniques. Also air logistic support of all theater forces, including those engaged in combat operations, to meet specific theater objectives and requirements.

theater of operations (area of operations). That portion of an area of war necessary for military operations and for the administration of those operations.

transfer of authority. The date and time (Greenwich mean time) at which the responsibility for operational control of a force or unit passes from one operational control authority to another. *See also* change of operational control.

U

unconventional warfare. A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy-controlled, or politically sensitive territory. Unconventional warfare includes, but is not limited to, the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low-visibility, covert, or clandestine nature.

unified command. A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more services, and which is established and so designated by the president, through the secretary of defense with the advice and assistance of the Joint Chiefs of Staff, or, when so authorized by the Joint Chiefs of Staff, by the commander of an existing unified command established by the president.

unified operations. It is essential to have a clear understanding of the term *unified operations*, its relationship to joint and uniservice operations, and the distinction between the terms. The term unified operation is a broad generic term descriptive of the wide scope of actions taking place within unified combatant commands under the overall direction of the commander of those commands. Within this general category of operation, subordinate commanders of forces conduct either uniservice or joint operations in furtherance of the overall unified operation. The types of forces to which doctrines, principles, and guidance established in Joint Pub 0-2 are applicable are unified commands, specified commands, subordinate unified

commands, and joint task forces. It is also applicable in the general sense where significant forces of one service are attached to forces of another service, or where significant forces of one service support forces of another service, under criteria set forth in Joint Pub 0-2.

unity of command. Also known as *unity of effort* as defined by Joint Pub 0-2. The concept of our military establishment as an efficient team of land, naval, and air forces is based on the principle that effective utilization of the military power of the nation requires that the efforts of the separate military services be closely integrated. Unity of effort among the services at the national level is obtained by the authority of the president and the secretary of defense exercised through the secretaries of the military departments and the Joint Chiefs of Staff, by the strategic planning and direction of the Joint Chiefs of Staff, and by common, joint, and cross-servicing by the military departments. Unity of effort among service forces assigned to unified or specified commands is achieved by exercise of operational command, adherence to common strategic plans and directives, and sound operational and administrative command organization. This concept is the basis for a sound working relationship between the Joint Chiefs of Staff and the commanders of unified and specified commands in the overall strategic direction of the armed forces on the one hand and, on the other, the military departments and services charged with preparing and providing forces for the unified and specified commands and administering and supporting the forces so provided.

W

war. Essentially war is fighting, the only effective principle in the manifold activities generally designated as war. The process by which a nation endeavors to impose its will on its opponent. As generally understood, armed conflicts on a fairly large scale, usually excluding conflict in which fewer than 50,000 combatants are involved (*Encyclopedia Britannica*, 15th Edition, 1988).

wing operations center (WOC). The facility from which the unit commander controls resources. Major functions are to receive and implement plans and order/air tasking orders (ATO) received from the Tactical Air Force commander/TACC. The reconnaissance WOC includes a photo processing and interpretation facility which processes, interprets, and disseminates information derived from tactical air reconnaissance missions.

Z

zone. A tactical subdivision of a larger area, the responsibility for which is assigned to a tactical unit; generally applied to offensive action. Also referred to as a zone of action.

Numerical Index of Selected Joint Publications

Number	*Date*	*Title*	*Remarks*
0-1		Basic National Defense Doctrine	
0-2	1 Dec 86	Unified Action Armed Forces (UNAAF)	Replaces JCS Pub 2. Change 1, 21 Apr 89
1-01	15 Apr 88	Joint Publication System (Joint Doctrine and JTTP Development Program)	Change 2, 1 Jun 90
1-02	1 Dec 89	DOD Dictionary of Military and Associated Terms	Replaces JCS Pub 1
3-0		Doctrine for Unified and Joint Operations	Test Pub, 1 Jan 90
3-00.1		Joint Doctrine for Contingency Operations	To be developed
3-01.1	1 Feb 82	Joint Doctrine for the Defense of the United States Against Air Attack	Replaces JCS Pub 9

Number	*Date*	*Title*	*Remarks*
3-01.2	1 Apr 86	Joint Doctrine for Theater Counterair Operations	Replaces JCS Pub 26. To be consolidated with JCS Pub 3-01.3
3-01.3	23 May 64	Joint Doctrine for Air Defense from Overseas Land Areas	Replaces JCS Pub 8. To be consolidated with JCS Pub 3-01.2. Change 1, 9 Jan 84
3-01.4		JTTP for Joint Suppression of Enemy Air Defense	In development
3-01.5		Doctrine for Joint Tactical Missile Defense	In development
3-02.1		Joint Doctrine for Land Force Operations	Test Pub, 1 Nov 89. Replaces LFM 02, FM 100-43, AFM 2-54
3-02.2	30 Jun 87	Joint Doctrine Amphibious Embarkation	Test Pub, 1 May 90. Replaces LFM 03, FM 20-12, NWP 22-6, AFR 75-6
3-03		Doctrine for Joint Interdiction Operations	In development

Number	*Date*	*Title*	*Remarks*
3-03.1		Doctrine for Joint Interdiction of Follow-on Forces	Test Pub, 16 Jun 88
3-04		Doctrine for Joint Maritime Operations (Air)	Test Pub, 1 May 88
3-05		Doctrine for Joint Special Operations	In development. Replaces JCS Pub 20, Vol II
3-05.3	30 May 83	Joint Special Operations, Operational Procedures	Replaces JCS Pub 20, Vol II
3-56	1 Apr 74	Tactical Command and Control Planning Guidance and Procedures for Joint Operations (Information Exchange Planning Guidance)	Replaces JCS Pub 12, Vol I. Change 1, 16 May 79

Glossary

A

AAA	antiaircraft artillery
AADCOM	Army Air Defense Command
AAFCE	Allied Air Forces Central Europe
AAGS	Army air ground system
AAP	Allied Administrative Publication (NATO)
AAW	antiair warfare
AB	air base
ABCCC	airborne battlefield command and control center
ABNCP	airborne command post
ACA	Airspace Control Authority airspace coordination area
ACC	Air Combat Command (established 1 July 1992)
ACCHAN	Allied Command Channel
ACCIS	Automated Command and Control Information System
ACCMPS	Automated Command and Control Message Processing System
ACCS	Air Command and Control System
ACE	airspace control element Allied Command Europe (NATO)
ACLANT	Allied Command Atlantic (NATO)
ADCC	air defense control center
ADCOM	Aerospace Defense Command
ADGE	air defense ground environment
ADIZ	air defense identification zone
ADOA	Air Defense Operation Area (NATO)
ADP	automatic data processing

ADVON	advanced echelon advanced operational nucleus
AEF	Allied Expeditionary Forces
AEGIS	Airborne Early Warning Ground Environment Integration Segment
AEW	airborne early warning
AFAC	airborne forward air controller
AFAMPE	Air Force Automated Message Processing Exchange
AFB	air force base
AFCC/ACC	Air Force component commander/ air component commander
AFCENT	Allied Forces Central Europe (NATO)
AFFOR	Air Force forces, Air Force component command/commander
AFM	Air Force manual
AFMC	Air Force Materiel Command (established 1 July 1992)
AFNORTH	Allied Forces Northern Europe (NATO)
AFR	Air Force regulation
AFSINCGARS	Air Force single channel ground and airborne radio subsystem
AGOS	Air Ground Operations School air ground operations system
AI	air interdiction
Air Alloc	air allocation message
AIRBALTAP	Allied Air Forces Baltic Approaches
AIRSONOR	Allied Air Forces South Norway (NATO)
ALB	AirLand Battle
ALCC	airlift control center
ALCE	airlift control element
ALFI	air land force interface
ALO	air liaison officer

AMC	Air Mobility Command (established 1 July 1992)
	Airspace Management Center
AME	airspace management element
AO/AOA	area of operations
AOB	air order of battle
AOC	air operations center
AOR	area of responsibility
ARFOR	Army forces, Army force component/ commander
ARLO	air reconnaissance liaison officer
ARN	air reporting network
ARVN	Army, Republic of Vietnam
AS	air standard
ASCC	Air Standardization Coordinating Committee
ASCS	Air Support Control Section
ASIC	All Source Intelligence Center
ASIT	adaptable surface interface terminal
ASOC	air support operations center
ASTRA	air staff training
ATAF	Allied Tactical Air Force (NATO)
ATM	air tasking message
ATO	air tasking order (frag)
ATOC	allied tactical operations center (NATO)
ATP	allied tactical publication (NATO)
AUTODIN	automatic digital network
AUTOSEVOCOM	automatic secure voice communications
AWACS	airborne warning and control system
AWC	air weapons controller

B

BAI	battlefield air interdiction
BALTAP	Baltic Approaches

BCE	battlefield coordination element
BENELUX	Belgium, Netherlands, Luxembourg

C

C^2	command and control
C^3	command, control, and communications
C^3CM	command, control, and communications countermeasures
C^3I	command, control, communications, and intelligence
C^3I^2	command, control, communications intelligence and interoperability
C^5I^3	coordinated command, control, communications, and computing for integrated information and intelligence
CA	civil actions
CAA	Combined Arms Army
CAME	Corps Air Space Management Element
CAP	combat air patrol
CAS	close air support
CENTAG	Central Army Group, Central Europe (NATO)
CG	commanding general
CH	cargo helicopter
CHOP	change of operational control (TOA)
CI	counterintelligence
CIC	combat intelligence center
CINC	commander in chief
CINCENT	commander in chief, Central Europe (NATO)
CINCEUR	commander in chief, European Command
CINCFE	commander in chief, Far East
CINCHAN	commander in chief, Channel
CINCLANT	commander in chief, Atlantic Command
CINCMAC	commander in chief, Military Airlift Command
CINCNORTH	commander in chief, Northern Europe (NATO)

CINCPAC	commander in chief, Pacific Command
CINCPACAF	commander in chief, Pacific Air Force
CINCPACFLT	commander in chief, Pacific Fleet
CINCSAC	commander in chief, Strategic Air Command
CINCSOUTH	commander in chief, Southern Europe (NATO)
CINCUSAFE	commander in chief, United States Air Force Europe
COB	collocated operating base
COC	combat operations center
COIC	combat operations intelligence center
COMAAFCE	commander, Allied Air Forces Central Europe (NATO)
COMALF	commander, Allied Land Forces
COMBALTAP	commander, Baltic Approaches
COMJAM	communications jamming
COMLANDJUT	commander, Land Forces Jutland
Comm	communication(s)
COMMZ	communications zone
COMTAF	commander, Tactical Air Force
COMUSMACTHAI	commander, United States Military Assistance Command, Thailand
COMUSMACV	commander, United States Military Assistance Command, Vietnam
CONUS	continental United States
COSCOM	Corps Support Command
CR	central region
CRAF	civil reserve air fleet
CRC	control and reporting center
CRP	control and reporting post
CS	combat support
CSS	combat service support
CTF	carrier task force
CTOC	corps tactical operations center

D

DCA	defensive counterair Defense Communications Agency
DCS	deputy chief of staff
DEFCON	defense readiness condition
DGZ	designated ground zero
DISUM	daily intelligence summary
DIVAD	division air defense
DOB	dispersed operating base
DOD	Department of Defense
DOO	daily operations order
DS	defense suppression direct support
DSU	direct support unit
DTOC	division tactical operations center
DZ	drop zone

E

EAC	echelons above corps
EC	electronic combat
ECCM	electronic counter-countermeasures
ECM	electronic countermeasures
Eifel	Elektronisches Informations-und Führungssystem für die Einsatzbereitschaft der Luftwaffe (electronic information C^2 system for the German Air Force [Luftwaffe])
ELINT	electronic intelligence
EOB	electronic order of battle enemy order of battle
ETA	equivalent target area estimated time of arrival
ETD	estimated time of departure
EUCOM	European Command

EW	early warning electronic warfare
EWO	electronic warfare officer emergency war order

F

FAC	forward air controller
FAC-A	forward attack coordinator-airborne
FACP	forward air control post
FEAF	Far East Air Forces
FEBA	forward edge of the battle area
FECOM	Far East Command
FIST	fire support team (Army)
FLO	fighter liaison officer
FLOT	forward line of own troops
FM	field manual
FMFLANT	Fleet Marine Force, Atlantic
FOB	forward operating base
FOL	forward operating location
FRAG	fragmentary order (ATO)
FSCL	fire support coordination line
FSCOORD	fire support coordinator
FY	fiscal year

G

G-1	personnel officer at division and corps
G-2	intelligence officer at division and corps
G-3	operations officer (Army) at division and corps levels
G-3 air	operations officer (air) at division and corps levels
G-4	logistics officer at division and corps
GCI	ground controlled intercept

GDP	general defense plan
GEADGE	German air defense ground environment
GFAC	ground forward air controller
GHQAF	General Headquarters Air Force
GLCM	ground launched cruise missile
GLO	ground liaison officer
GMT	Greenwich mean time (Zulu time)
GOB	ground order of battle

H

Hawk	homing all the way killer—missile system (low-altitude SAM)
HFAC	helicopter forward air controller
HHQ	higher headquarters
HIDACZ	high density airspace control zone
HIGHMEZ	high altitude missile engagement zone
HIMAD	high-to-medium altitude air defense
HOJ	home on jamming
HQ	headquarters
HUMINT	human intelligence

I

IFF/SIF	identification, friend or foe/selective identification feature
IFR	in-flight report instrument flight rules
I-Hawk	Improved Hawk (homing all the way killer)
IMINT	imagery intelligence
INTREP	intelligence reports
IntSum	intelligence summary
IP	initial point
IPB	intelligence preparation of the battlefield

J

J-1, G-1, S-1	Personnel/Administration Section
J-2, G-2, S-2	Intelligence Section
J-3, G-3, S-3	Operations & Training Section
J-4, G-4, S-4	Logistics Section
J-5	Plans Section
J-6	Communications/Electronics Section
JAAT	joint air attack team
JCAAD	joint counter air/air defense
JCOC	Joint Combat Operations Center
JCS	Joint Chiefs of Staff
JINTACCS	Joint Interoperability of Tactical Command and Control Systems
JMEM	Joint Munitions Effectiveness Manual
JOC	joint operations center
Joint Pub	joint publication
J-SAK	joint attack of the second echelon
JSEAD	joint suppression of enemy air defenses
JSOC	joint special operations command
J-STARS	Joint Surveillance Target Attack Radar System
JTF	joint task force
JTIDS	Joint Tactical Information Distribution System

K

KM (Km)	kilometer
Kts	knots

L

LANDJUT	Land Forces Allied Land Forces Schleswig-Holstein & Jutland
LC	line of contact
LOC	lines of communications

LOWMEX	low altitude missile engagement zone
LZ	landing zone

M

MAAG	Military Assistance Advisory Group
MAB	Marine Amphibious Brigade (USMC)
MACTHAI	Military Assistance Command, Thailand
MACV	Military Assistance Command, Vietnam
MAF	Marine Amphibious Force (USMC)
MAG	Military Advisory Group
MAGTF	Marine Air/Ground Task Force (USMC)
MAJCOM	major command
MARFOR	Marine forces, Marine Corps component/ commander
MAS	Military Agency for Standardization (NATO)
MBA	main battle area
MEZ	missile engagement zone
MIJI	meaconing, interference, jamming and intrusion
MISREP	mission report
MOA	memorandum of agreement
MOB	main operating base
MOD	Ministry of Defense
MOP	memorandum of policy
MOU	memorandum of understanding
MPC	message processing center (TACS)

N

NADGE	NATO air defense ground environment
NAEGIS	NATO Airborne Early Warning and Ground Control Integration Segment
NAEW	NATO airborne early warning
NATO	North Atlantic Treaty Organization
NAVFE	Naval Forces Far East

NAVFOR	naval forces, naval force component/ commander
NAVLO	Navy liaison officer
NC	National Command
NCA	national command authorities
NEC	Northern European Command
NFA	no-fire area
NLT	not later than
NOE	nap of the earth
NORAD	North American Aerospace Defense Command
NORTHAG	Northern Army Group, Central Europe (NATO)
NOSC	NATO operations support cell/center

O

OAS	offensive air support
OCA	offensive counterair
OPCOM	operational command
OPCON	operational control
OpFor	opposing forces
OPlan	operations plan
OpOrd	operation order
OPSEC	operational security
OSC	Operations Support Center

P

PACAF	Pacific Air Forces
PACFLT	Pacific Fleet
PACOM	Pacific Command
PLSS	precision location strike system
PSYOPS	psychological operations
PTZ	predesignated target zone

Q

QRA	quick reaction alert
QRC	quick reaction capability

R

RACO	rear area combat operations
RADAR	radio detection and ranging
RADINT	radar intelligence
RAF	Royal Air Force
RDF	rapid deployment force
RDJTF	rapid deployment joint task force
RECON/RECCE	reconnaissance
REDCOM	readiness command
RIPL	reconnaissance and interdiction planning line
RLO	reconnaissance liaison officer
ROE	rules of engagement
RVN	Republic of Vietnam

S

SAC	Strategic Air Command (now part of ACC)
SACEUR	Supreme Allied Commander, Europe (NATO)
SACLANT	Supreme Allied Commander, Atlantic (NATO)
SEAD	suppression of enemy air defenses
SF	special forces
SHAEF	Supreme Headquarters, Allied Expeditionary Forces
SHAPE	Supreme Headquarters Allied Powers Europe (NATO)
SHORAD	short range air defense
SIGINT	signals intelligence
SINCGARS	single channel ground and air radio system
SIOP	single integrated operational plan
SITREP	situation report

SLAR	side-looking airborne radar
SLOC	sea line of communication
SO	special operations
SOC	sector operations center (NATO)
SOF	special operations forces
SOP	standing operating procedure
STANAG	standardization agreement
STRATCOM	Strategic Command
STRICOM	strike command
STRIKEFLEET	Strike Fleet, Atlantic Command
SURGE	maximum sortie generation

T

TAC	Tactical Air Command (now part of ACC)
TACAIR	tactical air (fixed wing air assets)
TACC	tactical air control center
TACON	tactical control
TACP	tactical air control party
TACREP	tactical report
TACS	tactical air control system
TACSATCOM	tactical satellite communications
TADIL	tactical digital information links
TAF	tactical air force
TALO	tactical airlift liaison officer
TAO	tactical air operation
TAOR	tactical area of responsibility
TAR	tactical air reconnaissance
TARN	Tactical Air Request Net
TASS	tactical air support squadron
TCW	tactical control wing
TEREC	tactical electronic reconnaissance system (USAF)
TF	task force
TFS	tactical fighter squadron

TFW	tactical fighter wing
tgt	target
TIPI	tactical information processing and interpretation
TIS	tactical intelligence squadron
TM	technical manual
TOA	transfer of authority (CHOP)
TOC	tactical operations center
TOT	time over target
TPFDL	time-phased force and deployment list
TRADOC	Training and Doctrine Command (US Army)
TRANSCOM	Transportation Command
TRI-TAC	tri-service tactical communications
tropo	tropospheric
TRS	tactical reconnaissance squadron

U

UE	unit equipment
UK	United Kingdom
UNAAF	Unified Action Armed Forces
UNC	United Nations Command
US	United States
USA	United States Army
USAF	United States Air Force
USAFE	United States Air Force Europe
USAREUR	United States Army in Europe
USCENTCOM	United States Central Command
USEUCOM	United States European Command
USMC	United States Marine Corps
USN	United States Navy
USNAVEUR	United States Naval Forces Europe
UTM	Universal Transverse Mercator (Map Grid System)
UW	unconventional warfare

W

WA	weapons allocator
WAO	weapons assignment officer
WOC	wing operations center
WRM	war reserve materiel
WRSK	war readiness spares kit

Z

Zulu	standard time (Greenwich mean time)

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